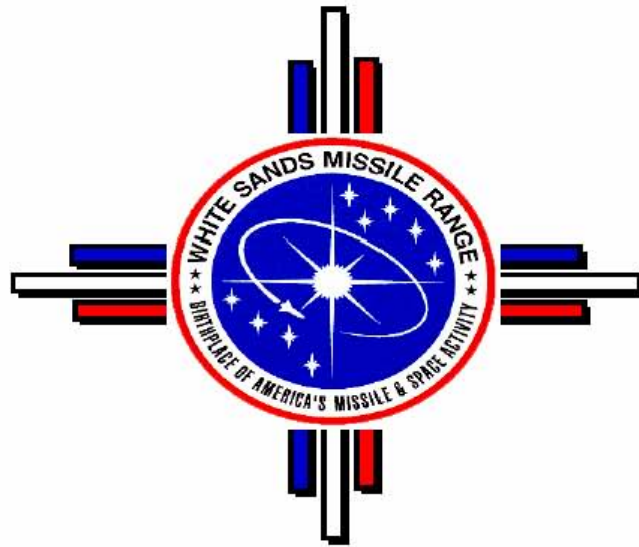


May 2005

White Sands Missile Range



☆☆ *AMERICA'S RANGE* ☆☆

Installation Action Plan

printed on 30% post-consumer material paper



FY2006

**WHITE SANDS MISSILE RANGE
New Mexico**

INSTALLATION ACTION PLAN

Final May 2005

Statement of Purpose

The Defense Environmental Restoration Program (DERP) was established by Section 211 of the Superfund Amendments and Reauthorization act (SARA) of 1986. The Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) are sub-programs of the DERP. The IRP was established to cleanup environmentally contaminated sites belonging to Department of Defense (DOD) installations. Generally, sites contaminated prior to October 17, 1986 are eligible for funding under the DERP. (The date is the date the DERP was established via passage of the SARA.) Specific funding for DOD installations are directly appropriated to each DOD department (or component) into what are known as Component Environmental Restoration accounts. For the Army, this account is known as the ER,A.

The purpose of the Installation Action Plan (IAP) is to outline the complete, multi-year IRP for a particular installation. The plan identifies an installation's environmental cleanup requirements, by site, and proposes a comprehensive approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

As stated previously, the IRP is specifically focused at contamination resulting from past activities and is funded by the centrally-managed ER,A budget account. Cleanup activities directed at contamination primarily resulting from current operations are separately funded and managed, and, although mentioned where relevant, will not generally be discussed in detail in this IAP.

In an effort to coordinate planning information between the IRP manager, AEC, installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for White Sands Missile Range (WSMR). The IAP is used to track requirements, schedules and budgets for all major Army installation restoration programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change. Under current project funding, all remedies will be in place at WSMR by the end of 2011.

Statement of Purpose

The following agencies contributed to the formulation and completion of this Installation Action Plan at the IAP Workshop held January 4-5, 2005:

CALIBRE/AEC

Engineering & Environment, Inc/AEC

IMA-SWRO

New Mexico Environmental Department HWB

US Army Environmental Center

U.S. Environmental Protection Agency

WTS, White Sands Missile Range

White Sands Missile Range Contracting

White Sands Missile Range EC

White Sands Missile Range ES

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Acronyms & Abbreviations

ACSIM	Assistant Chief of Staff for Installation Management
AEC	Army Environmental Center
AEDB-R	Army Environmental Database – Restoration (Formerly DSERTS)
AMRAD	Athena Measurement Radar
AOC	Area of Concern
ARL	Army Research Laboratory
ASI	Advanced Sciences Incorporated
AST	Aboveground Storage Tank
ATEC	Army Test and Evaluation Command
bgs	below ground surface
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
Ca F ₂	Calcium Fluoride (Fluorospa)
CBU	Cluster Bomb Unit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cm	centimeters
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measure Implementation (Operation)
CMS	Corrective Measures Study
CO ₂	Carbon Dioxide
Cr ⁺³ , Cr ⁺⁶	Chromium (trivalent, hexavalent)
CS	Confirmatory Sampling
CSM	Conceptual Site Model
CTC	Cost to Complete
CTT	Closed, Transferring, or Transferred
cy	cubic yards
DD	Decision Document
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DES	Design
DMAHTC	Defense Mapping Agency Hydrographic/Topographic Center
DOD	Department of Defense
DOE	Department of Energy
DPG	Defense Planning Guidance
DRMO	Defense Reutilization and Marketing Office
DSERTS	Defense Site Environmental Restoration Tracking System
DTC	Developmental Test Command
DTRA	Defense Threat Reduction Agency
EC	Environmental Compliance Division
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ER,A	Environmental Restoration, Army (formerly DERA)
ES	Environment and Safety Directorate

Acronyms & Abbreviations

ESE	Environmental Science and Engineering
FFTA	Fire Fighting Training Area
ft	feet
FRA	Final Remedial Action
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
GAC	Granular Activated Carbon
gal	gallons
GCL	Geoscience Consultants Ltd.
GEODSS	Ground-Based Electro-Optical Deep-Space Surveillance
GPRA	Government Performance and Results Act (of 1993)
GWM	Groundwater Monitoring
ha	hectares
HCF	HELSTF Cleaning Facility
HDPE	High Density Poly-Ethylene
HELSTF	High Energy Laser Systems Test Facility
HMW	HELSTF Monitoring Well
HSR	Human Systems Research
HSWA	Hazardous and Solid Waste Amendment
HTA	Hazardous Test Area
HWB	Hazardous Waste Bureau
HWSF	Hazardous Waste Storage Facility
IAP	Installation Action Plan
IGRS	In-Situ Gaseous Reduction
IMA-SWRO	Installation Management Agency – Southwest Regional Office
In	inch
IRA	Interim Remedial Action
IRFNA	Inhibited Red Fuming Nitric Acid
IRM	Interim Remedial Measures
IRP	Installation Restoration Program
IT	International Technology
k	thousand
kg	kilogram
km	kilometers
L	liters
lb	pounds
L.L.C.	Limited Liability Company
LPSA	Liquid Propellant Storage Area
LSTC	Laser System Test Center
LTM	Long Term Management
LTO	Long Term Operations
m	meter
MAR	Multi-Function Array Radar
MCL	Maximum Contaminant Level

Acronyms & Abbreviations

MDL	Method Detection Limit
MeCl	Methylene Chloride
mg/g	microgram per gram
mg/kg	milligram per kilogram
mg/L	milligram per Liter
mi	mile
MLRS	Multiple Launch Rocket System
mm	millimeter
MMH	Monomethyl Hydrazine
MMRP	Military Munitions Response Program
MSC	Major Subordinate Command
NaOH	Sodium Hydroxide
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organization
NE	Not Evaluated
NED	Nuclear Effects Directorate
NERF	Nuclear Effects Reactor Facility
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NMED	New Mexico Environment Department
NMGWQB	New Mexico Ground Water Quality Bureau
NMWQCC	New Mexico Water Quality Control Commission
NOD	Notice of Deficiency
NOP	North Oscura Peak
NPL	National Priorities List
NUC	Nuclear
OB/OD	Open Burning/Open Detonation
OE	Ordnance and Explosives
ORC	Oscura Range Center
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl
PCCP	Post-Closure Care Permit
PEO	Program Executive Officer
POL	Petroleum/Oil/Lubricants
ppm	parts per million
PRG	Preliminary Remediation Goals
RA	Remedial Action
RAB	Restoration Advisory Board
RA(C)	Remedial Action Construction
RACER	Remedial Action Cost Engineering & Requirements
RA(O)	Remedial Action Operations
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal

Acronyms & Abbreviations

RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI/FS	Remedial Investigation/Feasibility Study
RIP	Remedy in Place
ROM	Restoration Oversight Manager
RRSE	Relative Risk Site Evaluation
S&A	Supervision & Administration
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
STP	Sewage Treatment Plant
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compounds
SVS	Soil Vapor Survey
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TDS	Total Dissolved Solids
TMDE	Test Measurement Diagnostic Equipment
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons – Diesel
TRC	Technical Review Committee
TTF	Temperature Test Facility
UDMH	Unsymmetrical Dimethyl Hydrazine
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USASMDC	United States Army Space and Missile Defense Command
USGS	United States Geologic Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VCM	Voluntary Corrective Measure
VEDRS	Vacuum Enhanced Diesel Recovery System
VOC	Volatile Organic Compounds
WSMR	White Sands Missile Range
WTS	White Sands Technical Services, L.L.C.
yd	yard

INSTALLATION LOCALE: White Sands Missile Range (WSMR) is located in south central New Mexico on over 2,048,000 acres of land in five counties: Dona Ana, Socorro, Lincoln, Otero, and Sierra. In addition to the main installation, there are two call-up areas located adjacent to the north and west boundaries, and several joint-use land areas. These areas add over 3.8 million acres to the Range. WSMR is bordered on the east by Holloman Air Force Base and on the south by Fort Bliss Military Reservation. The Main Post area is approximately 45 miles (mi) north of El Paso, TX, and 30 miles east-northeast of Las Cruces, NM. U.S. Highway 70 crosses WSMR from east to west and serves as the main access to the Main Post area. There are no other populated areas located within the boundaries of the installation.

INSTALLATION MISSION: WSMR provides Army, Navy, Air Force, DoD, and other customers with high quality services for experimentation, test, research, assessment, development, and training in support of the Nation at war.

COMMAND ORGANIZATION:

- WSMR
- IMA-Southwest Regional Office

LEAD EXECUTOR:

- WSMR Environment and Safety Directorate (ES) – Environmental Compliance Division (EC)

REGULATOR PARTICIPATION:

- New Mexico Environment Department (NMED), Santa Fe, NM
- U.S. Environmental Protection Agency (EPA), Region VI, Dallas, TX

NPL STATUS:

- Non-NPL Installation
- Resource Conservation and Recovery Act (RCRA) Part B Operating Permit, September 1989 that contains a HSWA corrective actions module.

RAB/TRC/TAPP STATUS: White Sands Missile Range determined (in 1998) that insufficient public interest exists to establish a formal RAB. The next public interest survey is scheduled for 2005.

White Sands provides the interested public with opportunities for environmental restoration involvement via:

- Periodic newsletters discussing current restoration activities;
- Annual publication of the Installation Action Plan;
- Invitations to tour environmental restoration sites; and
- Open access to the public ES Resource Room. (a.k.a., ES Library)

PROGRAM SUMMARIES:

IRP

Contaminants of Concern: Cyanide, Diesel, Explosives, Metals, Pesticides, POLs, SVOCs, TPH, Volatile Organics
Media of Concern: Soil, Groundwater
Estimated date for RIP/RC: 2011
Funding to Date: (FY88-FY04) \$31,343,260
CTC: \$38,559,000

MMRP

Contaminants of Concern: UXO
Media of Concern: Soil, Groundwater
Estimated date for RIP/RC: 2017
Funding to Date: \$25,000
CTC: \$53,046,000

BRAC

No BRAC sites

Cleanup Program Summary

HISTORIC ACTIVITY: WSMR is an active installation serving as the U.S. Army's largest rocket and missile development, firing and testing facility. It is a major center for the testing of new missile systems. WSMR performs applied research, field trials of new missile types, and new applications of existing missile systems. The Range also hosts inter-forces training of troops in a desert environment using tactical exercises for the North Atlantic Treaty Organization (NATO) and Allied Forces.

WSMR was established in 1945 for the development of a missile defense program that started with the testing of captured German V-2 rockets. The Range, formerly known as White Sands Proving Ground, was formed from privately held grazing land that was either donated to the government or condemned for the use of the government. WSMR has been active since its establishment with no decrease in land holdings.

The current configuration of WSMR includes launch sites, impact areas, instrumentation sites, and support facilities required to develop and test missiles and rockets. WSMR is designated as a National Range focused on the support of missile development and test programs for the Army, Navy, Air Force, National Aeronautics and Space Administration (NASA), and other governmental agencies. Thousands of missile firings, airdrops, and static tests have been conducted as part of this mission.

Initiation of the IRP began in August 1988 with a RCRA Facility Assessment (RFA) of WSMR, performed by A.T. Kearney for the EPA, Region VI. This report identified 138 solid waste management units (SWMUs) and 26 Areas of Concern (AOC).

The RFA is generally considered to be equivalent to the Preliminary Assessment (PA) required by the Comprehensive Environmental Response, Compensation & Liability Act (CERCLA).

In September 1989, WSMR was issued a RCRA Part B Operating Permit for the operation of a Container Storage Area (WSMR Hazardous Waste Storage Facility). The "Hazardous and Solid Waste Amendment" (HSWA) Module of this Permit addresses the investigation and corrective actions regarding releases from WSMR SWMUs (many of which are or are contained within IRP sites referenced in this IAP). The HSWA Corrective Action Module of the RCRA Part B Permit contains a listing of WSMR SWMU sites requiring investigation or cleanup.

From 1989 to 1996 the U.S. Environmental Protection Agency (EPA) served as the lead regulatory agency with the New Mexico Environment Department (NMED) providing review for all work proposed by WSMR. In January 1996, the EPA relinquished HSWA regulatory authority to NMED. NMED is currently the lead regulatory agency with the EPA providing oversight and supplementary assistance.

Since 1988, WSMR has continued to investigate and cleanup sites warranting further action. WSMR has performed numerous voluntary clean up actions and has conducted groundwater monitoring and soil borings to document the presence or absence of contaminants. WSMR has developed remedial work plans outlining the best procedures for clean up at remaining sites and petitioned the regulatory authority, NMED, for No Further Action rulings on sites at which WSMR has performed clean up actions and sites determined to have no contamination after completion of investigation(s).

Cleanup Program Summary

PROGRAM PROGRESS:

IRP: Presently, WSMR IRP includes a total of 71 sites with 46 sites considered to be in a Response Complete (RC) status. Of the remaining 25 sites, 12 sites will require future funding beyond FY05. The remaining 13 zero-funded sites are distributed as follows: 10 sites will be funded under site WSMR-30 for site closure and documentation; three sites are included as part of an ongoing RI at WSMR-85. These 13 sites are listed as active in AEDB-R and included in the Cost-To-Complete (CTC) (pgs. 113-1 and 113-3); however, they have no future funding (or zero-funded) future requirements. These 13 non-funded sites include WSMR-31, 32, 33, 36, 53, 57, 60, 73, 74, 78, 79, 83, and 84. Sites WSMR-53, 78 and 83 are being covered under WSMR-85 and the remainder of these sites are covered under WSMR-30 (refer to Table 1 and/or the CTC Charts).

MMRP: Six sites have been identified as eligible for the MMRP program at WSMR. Two of those appear to be FUDS eligible and should be transferred into the FUDS MMRP. The remaining four WSMR MMRP sites are scheduled for a SI in FY06.

BRAC: There are no BRAC sites at WSMR

WHITE SANDS

INSTALLATION RESTORATION PROGRAM

AEDB-R TOTAL SITES/TOTAL SITES RC: 71/46

AEDB-R SITE TYPES (71 Sites):

1 Burn Area	2 Fire/Crash Training Areas	1 Contaminated Soil Piles
1 Contaminated Groundwater	1 Drainage Ditch	2 Disposal Pit/Dry Wells
2 Leach Fields	2 Sewage Effluent Settling Ponds	1 Firing Range
2 Incinerators	18 Landfills	1 Oil Water Separator
2 Washracks	1 Storage Areas	5 Spill Site Area
10 Surface Impound/Lagoons	4 Sewage Treatment Plants	1 Above Ground Storage Tank
3 Waste Lines	4 Underground Storage Tank	1 Mixed Waste Area
1 Radioactive Waste Area	1 Soil Contamination After Tank	2 Explosive Ordnance Disposal
2 Unexploded Munitions/ Ordnance	Removal	Area

CONTAMINANTS OF CONCERN: Cyanide, Diesel, Explosives, Metals, Pesticides, POLs, SVOCs, TPH, Volatile Organics

MEDIA OF CONCERN: Groundwater, Soil

COMPLETED REM/IRA/RA:

WSMR-11, Liquid Propellant Eva/Neut Pits (10)
WSMR-14, Former Rhodes Canyon Landfills
WSMR-27, Former Acid Neut Unit @ HWSF Loading Dock
WSMR-29, STP Drying Beds (Main Post)
WSMR-30, STP Sludge Waste Pile (Main Post)
WSMR-31, Main Post Former FFTA & Pit
WSMR-32, Main Post Former FFTA Waste Pile
WSMR-33, Used Battery Accum Areas (Main Post)
WSMR-34, TTF HDPE-Lined Lagoon
WSMR-36, Former Waste/Oil Tank & Sump East Bldg 1794
WSMR-41, TTF Methylene Chloride Spill Area/Vap Ex
WSMR-50, HELSTF Ethylene Glycol Tanks
WSMR-53, HELSTF Test Cell 4 Lagoon
WSMR-54, HELSTF Chromate Spill Site
WSMR-57, Former Golf Course Pesticide Storage Shed
WSMR-58, Former Vandal Burial Site
WSMR-67, Stallion Asphalt Tanks
WSMR-72, Abandoned Disposal Trench at New Commissary
WSMR-74, Former Waste Oil Tank/Sump @ Bldg 1778
WSMR-75, Rhodes Canyon Subgrade Asphalt Tanks (3)
WSMR-77, McAfee & Vet Clinic Incinerators
WSMR-78, HELSTF Decontamination Pad and Underground Tank
WSMR-84, Former LC-37 Paint Dump

TOTAL ERA FUNDING:

Prior Year (FY88-FY04):	\$31,343,260
Current (FY05):	\$ 927,000
Future (FY06-FY15+):	\$38,559,000

DURATION OF IRP:

Year of IRP inception:	1988
Year of RA(C) completion:	2011
Year of IRP completion:	Indefinite

IRP Contamination Assessment

WSMR submitted a Resource Conservation and Recovery Act (RCRA) Part A permit application after the New Mexico Hazardous Waste Management Regulations were published on May 19, 1980. The permit included the waste management activities at the cleaning facility located at the High Energy Laser System Test Facility (HELSTF) located 18.5 miles northeast of the Main Post. Through negotiations with the New Mexico Environmental Improvement Division, Hazardous Waste Section, the final design was approved and incorporated into the RCRA Part A permit on January 30, 1984 (Pache, 1984).

WSMR applied for a RCRA Part B Permit in 1984, which included operations at HELSTF. As part of the permit application WSMR was required to conduct a RCRA Facility Assessment (RFA) to determine whether there is a potential or an actual release of hazardous waste or hazardous waste constituents anywhere at its facility. Distinct locations of potential contamination are referred to as solid waste management units (SWMUs). Less defined areas of potential contamination are referred to as areas of concern (AOCs).

To date, each WSMR environmental restoration site is referred to by its SWMU or AOC ID and its IRP ID, when applicable. Under current DoD guidance, those sites contaminated prior to October 17, 1986 by a now inactive operation, such as a former vehicle maintenance shop, shall be funded under the Defense Environmental Restoration Program (DERP), more specifically, the Installation Restoration Program (IRP) if located at an active DoD installation.

WSMR submitted the RFA (A.T. Kearney, Inc., 1988) to EPA Region VI in 1988 and identified 138 SWMUs and 26 AOCs. Among these sites, 17 SWMUs and 3 AOCs were located at HELSTF. **This point is considered the initiation of the WSMR Installation Restoration Program.** The results of this RFA were used by the EPA to prepare the HSWA Corrective Action Module of the RCRA Part B Permit. The EPA approved and issued the Permit to WSMR on 29 September 1989. Stipulations of the Permit required WSMR to investigate and cleanup 92 SWMU sites and 4 AOCs.

Before the investigation of SWMUs, the U.S. EPA Region VI directed WSMR to conduct an Interim Remedial Measures (IRM) to address a leaking underground storage tank at the HELSTF. An IRM work plan was submitted to EPA and NMED in December 1991. Since that time, WSMR has been performing the required cleanup to remove “floating” diesel product from the groundwater. This site is IRP site WSMR-55.

The 92 SWMU sites identified in Appendices I-IV of the Permit were assessed for releases to the environment during the implementation of the Phase I RCRA Facility Investigation (RFI). The Phase I RFI Report (I.T. Corp., 1992) identified 80 SWMUs that required further investigation. Of the 80 sites, 24 were approved for No Further Remedial Action Planned (NFRAP) in September 1993. A modification to the RCRA Part B Permit was initiated to include this change in the HSWA Corrective Action Module of the Permit. The change was made and approved by EPA, Region VI, in December 1995.

Based on EPA and NMED direction, WSMR initiated a Phase II work plan to further investigate the presence or absence of contaminants at 52 SWMUs identified by the Phase I Investigation as containing contaminants that may pose a risk to human health or the environment. EPA and NMED approved the work plan in September 1993.

IRP Contamination Assessment

In December 1994, WSMR completed Phase II of the RFI (Sverdrup, 1994) and submitted the report for regulatory review. WSMR received state and federal EPA, Region VI comments on the Phase II RFI in 1996. Both the NMED and EPA Region VI issued notices of deficiency (Kelley, 1996; Honker, 1996) regarding the report. The NMED emphasized the need to address the SWMUs at HELSTF differently than those at other locations. WSMR provided their final response to the NOD on September 22, 1997 (Ladd, 1997). Since then, many environmental restoration activities have been initiated and/or completed on a site-by-site basis.

WSMR submitted a series of no further action (NFA) petitions to the NMED Hazardous Waste Bureau (HWB) beginning in January 2000 for various SWMUs on the WSMR RCRA Permit. The petitions were submitted based on the results of previous investigations and closure reports documenting remedial activities but were denied by NMED in March 2002 (Frischkorn, 2002) on the basis that further characterization and ecological risk assessment were required. Many of the related IRP sites were designated as Response Complete during 2000 in the Army's DSERTS database system. During FY02, the SWMUs were subsequently reopened within WSMR's IRP for further study and included 18 SWMUs dispersed among 14 related IRP sites (see Table 1 below).

The sites reopened in 2002 are being investigated under two distinct groups – those sites located near the Main Post and those sites located at HELSTF (HELSTF sites are highlighted in yellow). A Phase III RFI work plan is currently in development for those sites located on or near the Main Post. This effort is commonly referred to as the “Multi-Site Main Post Phase III RFI”. This work plan includes 15 SWMUs dispersed among 11 IRP sites. Additionally, and in large part to the Phase II RFI comments received from NMED in 1996, WSMR has initiated a Phase III RFI investigation at the HELSTF to investigate environmental contamination at HELSTF using a holistic approach. The work plan for this effort is also currently under development and includes IRP sites WSMR-52, 53, 54, 55, 78, 83 and 85. IRP Sites WSMR-53, 78 and 83 were part of those sites reopened during FY02 and have one SWMU related each (See Table 1). This investigative effort is underway and is commonly referred to as the “HELSTF Phase III RFI”.

Finally, various efforts continue on a site-by-site basis at other IRP sites including WSMR-05, 09, 14, 41, 61, 62 and 71. Table 2 provides the current status of each IRP site and a cross reference to related SWMUs and AOCs .

GPRA Status: The Army's GPRA performance is measured against DERP goals (a.k.a., Defense Planning Guidance goals). DERP DPG goals are time based and require DOD installations to complete restoration activities according to a site's relative risk. The higher the relative risk, the sooner a site's restoration activities must be completed. Current DPG goals for non-BRAC installation (such as WSMR) are as follow:

Restoration activities will clean up to a lower relative risk category, or have remedial systems in place for:

- 50% of identified high relative risk sites by the end of FY2002,
- 100% of identified high relative risk sites by the end of FY2007,
- 100% of identified medium relative risk sites by the end of FY2011,
- 100% of identified low relative risk sites by the end of FY2014.

WSMR's IRP is meeting these goals.

IRP Contamination Assessment

CLEANUP EXIT STRATEGY:

The following discusses the strategy for reaching RIP/RC for the current 25 IRP WSMR that require future restoration activity:

WSMR- 30, 31, 32, 33, 36, 57, 60, 73, 74, 79 and 84 (11 sites) – These sites are located within the Main Post area and were re-opened within the DSERTS (pre-AEDB-R) during early FY03. Relatively minor regulatory concerns are being addressed (FY03-05) and include ecological risk screening and establishing background metals concentrations. The work is being conducted under an investigative phase commonly referred to as the “Multi-Site Main Post Phase III RFI”. Site closeout activities (primarily documentation) will be the only remaining requirements expected to be addressed in FY06. WSMR anticipates reaching the RC stage by FY06 end for all these sites.

WSMR-52, 53, 54, 55, 78, 83 and 85 (HELSTF Sites – 7 sites) – These sites are all located in the HELSTF main cantonment area. An investigative phase is underway and is commonly referred to as the “HELSTF Phase III RFI”. WSMR anticipates the Phase III RFI will be completed by FY07 end and followed by a CMS during FY08-09. Various remedial actions are anticipated and will be funded under each pertinent site number as required. WSMR-85 will cover the bulk of any resulting LTM requirements including groundwater monitoring; however, LTM requirements not related to groundwater, such as cap maintenance, may be programmed under the individual site numbers.

WSMR-05, 09, 14, 41, 61, 62 and 71 (7 sites) – Currently, various activities are occurring at these sites. Final activities (i.e., to reach RC) for WSMR-05, 09 and 71 will occur in FY06. RC schedules for the remaining sites (WSMR-14, 41, 61 and 62) are discussed in the site narrative later in this document.

IRP Contamination Assessment

REOPENED SITES - TABLE 1

	IRP ID	SWMU Alias	IRP Site Description	ECO RA ¹	BG Soil ²	Conf Sampl ³	Final RFI Rpt ⁴	Rem Act ⁵
1	WSMR-30	80	STP Sludge Waste Pile (Main Post)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> As	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--
2	WSMR-31	21	Main Post Former FFTA and Pit	<input checked="" type="checkbox"/>	--	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--
3	WSMR-32	22	Main Post Former FFTA Waste Pile	<input checked="" type="checkbox"/>	--	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> ⁶
4	WSMR-33	14, 15	Used Battery Accumulation Areas (Main Post)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Pb, As	--	<input checked="" type="checkbox"/>	--
5	WSMR-36	8, 9	Former Waste/Oil Tank & Sump East Bldg 1794	<input checked="" type="checkbox"/>	--	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--
6	WSMR-53	145	HELSTF Test Cell 4 Lagoon	n/a	n/a	n/a	n/a	n/a
7	WSMR-57	156	Former Golf Course Pesticide Storage Shed	<input checked="" type="checkbox"/>	--	--	--	--
8	WSMR-60	12, 13	Wash Ramp & Drain/Sump East of Bldg 1778	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> As	--	<input checked="" type="checkbox"/>	--
9	WSMR-73	17	Waste Underground Injection Pipe	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> As	--	--	--
10	WSMR-74	10, 11	Former Waste Oil Tank/Sump-Bldg 1778	<input checked="" type="checkbox"/>	--	--	--	--
11	WSMR-78	147	HELSTF Decon Pad and Underground Tank	n/a	n/a	n/a	n/a	n/a
12	WSMR-79	16	Heavy Equipment Wash Pad and Drain @ Bldg 1736	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> As	--	--	--
13	WSMR-83	148	Former MAR Waste Stabilization Pond	<input checked="" type="checkbox"/>	--	--	<input checked="" type="checkbox"/>	--
14	WSMR-84	140	Former LC-37 Paint Dump	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Pb, As	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--

1. ECO RA = Ecological Risk Assessment required

2. BG Soil = Background Soil study required; Metals of concern are noted.

3. Conf Sampl = Confirmation Sampling is required.

4. Final RFI Rpt = Final RFI Report is required (a final report will be required for all work conducted under this WAO)

5. Rem Act = Removal Action is required.

6. A limited excavation may be required and recommended as a future action for sight WSRM-32.

Sites highlighted in yellow are located at HELSTF and being investigated as part of WSMR-85 efforts.

TABLE 2: WSMR IRP Sites Listing (Active and Inactive Site)

	IRP ID	RCRA Alias	Site Description	Site Type per AEDBR	Current Phase/Status	Decision Document Status				NMED 2003 AUA Status	Comments
						Draft	Final	Signature Date	Valid DD?		
1	WSMR-01	None	Yonder Impact Area	Unexploded Munitions/Ordnance	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Active impact area; RCRA Subpart X unit (Davis, 2002)
2	WSMR-02	SWMU 50 (combined SWMUs 51-54)	Red Rio Munitions Disposal Area (Pits 1-5)	Explosive Ordnance Disposal Area	RC, FY97; IRP ineligible	None	None	n/a	TBD	OU	Deleted from IRP, CY00; Active impact area; Regulated under RCRA Subpart X (2002 IAP); NMED combined SWMUs 50-54 (Red Rio North Landfill, CY2003 AUA) into SWMU 50; SWMU 155 appears to be a related area and listed as "Red Rio South Landfill" on CY2003 AUA
3	WSMR-03	SWMU 41-46	Oscura Munitions Disposal Area	Explosive Ordnance Disposal Area	RC, FY97; IRP ineligible	None	None	n/a	TBD	OU	Deleted from IRP, CY00; RCRA Subpart X unit (2002 IAP)
4	WSMR-04	None	Oscura Range Impact Area	Unexploded Munitions/Ordnance	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Active impact area (2002 IAP); RCRA Subpart X unit
5	WSMR-05	SWMU 157-159	Former Oscura Range Center Landfill	Landfill	RD/RA	Jan-00	None	n/a	No	CA;OU	Site inactive since 1986; Updated DD scheduled for FY05; SWMU 158 listed as OU and SWMUs 157/159 as CA units on 2003 AUA
6	WSMR-08	None	Pistol/Rifle Range	Firing Range	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Active firing range (2002 IAP)
7	WSMR-09	SWMU 160-161	Nuclear Effects Reactor Facility (Bldg 21235)	Mixed Waste Area	RAC	Dec-99	Aug-99	16-Aug-99	Yes	OU	SWMU 160 (Pond #1) removed, May 01; Additional confirmation samples in May 04; Removed SWMU 161 (Pond #2), Jun 04; Awaiting NMED review/approval of closure report for both ponds.
8	WSMR-11	SWMU 92-100	Liquid Propellant Evap/Neut Pits (10)	Disposal Pit/Dry Well	RC, FY96	None	None	n/a	TBD	OU	EPA VI approved Class III permit mod, DEC 95 for all SWMUs except 92B/94 (2002 IAP); A DD cannot be located, DD future date TBD; 2003 AUA lists SWMU 92B and 94 separately as OUs.
9	WSMR-12	AOC	OB/OD Disposal Pits - Haz Test Area	Burn Area	RC, FY97; IRP ineligible	None	None	n/a	TBD	OU	Deleted from IRP, CY00; RCRA Subpart X unit (2002 IAP); 2003 AUA lists site as SWMUs 55, 56 and 56A
10	WSMR-13	None	Trinity Site	Radioactive Waste Area	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; National Historic Landmark monitored by White Sands Radiation Protection (2002 IAP)
11	WSMR-14	SWMU 114, 115	Former Rhodes Canyon Landfills	Landfill	LTM	Apr-99	Aug-04	27-Oct-04	Yes	CA;OU	2003 AUA lists SWMU 114 as OU and SWMU 115 as CA unit.
12	WSMR-15	None	Former Hazardous Waste Landfill	Landfill	RC, FY90; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Clean closure in 1990 (ASI, 1990); closure approved by EPA VI (2002 IAP)
13	WSMR-17	SWMU 66, 67	Sewage Treatment Plant Main Post	Sewage Treatment Plants	RC, FY97; IRP ineligible	UK	Apr-00	15-May-00	Yes	NL	Deleted from IRP, CY00; Active site; DD states that WSMR-17 regulated under NMED GW Bureau discharge permit (2002 IAP)
14	WSMR-18	None	Flower Area Burial Site	Landfill	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Erroneous DSERTS entry (2002 IAP)
15	WSMR-19	None	Burial Site North of Army Blockhouse	Landfill	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Erroneous DSERTS entry (2002 IAP)
16	WSMR-20	AOC	Bomblet Burial Site	Landfill	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Inactive UXO site; RCRA Subpart X unit (2002 IAP)
17	WSMR-23	SWMU 57-60	Tula Peak Burial Pits	Landfill	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Inactive UXO site; RCRA Subpart X unit (2002 IAP)
18	WSMR-24	SWMU 61	Tula Peak Burial Site Incinerator	Incinerator	RC, FY96	None	None	n/a	TBD	OU	EPA VI approved Class III permit mod, DEC 95; A DD cannot be located, DD future date TBD; Incinerator unit on AUA
19	WSMR-27	SWMU 89	Former Acid Neut Unit @ HWSF Loading Dock	Surface Impoundment/Lagoon	RC, FY97	Apr-00	None	n/a	TBD	OU	Cleanup completed, 1981; Phase II RFI recommended NFA; Class III permit mod required
20	WSMR-29	SWMU 79	STP Drying Beds (Main Post)	Sewage Treatment Plants	RC, FY96	None	None	n/a	TBD	NL	EPA VI approved Class III permit mod, DEC 95; A DD cannot be located, DD future date TBD
21	WSMR-30	SWMU 80	STP Sludge Waste Pile (Main Post)	Sewage Treatment Plants	RI	None	None	n/a	TBD	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment & background soil metals required; To complete DD, FY06
22	WSMR-31	SWMU 21	Main Post Former FFTA and Pit	Fire/Crash Training Area	RI	Jan-99	Mar-99	8-Apr-99	No	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment & confirmation sampling required; To revise DD, FY06
23	WSMR-32	SWMU 22	Main Post Former FFTA Waste Pile	Contaminated Soil Piles	RI	Jan-99	Mar-99	8-Apr-99	No	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment, confirmation sampling & a potential removal action required; Additional excavation may be required; To revise DD, FY06
24	WSMR-33	SWMU 14 (combined SWMU 15)	Used Battery Accumulation Areas (Main Post)	Storage Area	RI	Jan-99	Mar-99	8-Apr-99	No	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment & background soil metals required; To revise DD, FY06; SWMU 15 combined w/SWMU 14 (2003 AUA)
25	WSMR-34	SWMU 104	TTF HDPE-lined Lagoon (Removed)	Surface Impoundment/Lagoon	RC, FY97	Jan-99	None	n/a	TBD	NL	Lined lagoon removed and capped, 1990; A soil vapor extraction system installed, 1995; GWM under site WSMR-41; A signed DD cannot be located; Future DD date TBD

TABLE 2: WSMR IRP Sites Listing (Active and Inactive Site)

	IRP ID	RCRA Alias	Site Description	Site Type per AEDBR	Current Phase/Status	Decision Document Status				NMED 2003 AUA Status	Comments
						Draft	Final	Signature Date	Valid DD?		
26	WSMR-35	SWMU 107	TTF 25000 gal Evap Tank	Soil Contamination after Tank Removal	RC, FY95; IRP ineligible	UK	Jan-00	27-Jan-00	Yes	NL	Deleted from IRP, CY00; RCRA Closure Plan (DD and 2002 IAP)
27	WSMR-36	SWMU 8 (combined SWMU 9)	Former Waste Oil Tank & Sumps East Bldg 1794	Oil Water Separator	RI	Jan-99	Mar-99	8-Apr-99	No	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment & confirmation sampling required; To revise DD, FY06
28	WSMR-37	SWMU 90	HWSF Evap Tank	Surface Impoundment/Lagoon	RC, FY96; IRP ineligible	None	None	n/a	TBD	OU	Deleted from IRP, CY00; RCRA Closure Plan (2002 IAP)
29	WSMR-39	SWMU 63	Former Main Post Landfill 1A	Landfill	RC, FY00	Apr-00	May-00	24-May-00	Yes	CA	RI concluded site did not exist; Submitted RI report, JUN 00; NMED approved report following well T-21 sampling, FY04; Class III permit mod required
30	WSMR-40	SWMU 64	Former Main Post Landfill 2A	Landfill	RC, FY00	UK	Aug-00	23-Aug-00	Yes	CA	RI concluded site did not exist; Submitted RI report, JUN 00; NMED review/approval received, JUL 03; Class III permit mod required
31	WSMR-41	SWMU 108	TTF MeCl Spill Area - vapor extraction	Spill Site Area	RAO	None	None	n/a	TBD	NL	Post Closure Care Permit in place; Draft DD to be completed, FY06; Listed on 2003 AUA as SWMU 104 (IRP Site WSMR-34)
32	WSMR-42	SWMU 85	STP Discharge Site @ Playa Lake	Surface Impoundment/Lagoon	RC, FY97; IRP ineligible	UK	Apr-00	15-May-00	Yes	NL	Deleted from IRP, CY00; Active site; Under NMED GW Bureau (2002 IAP)
33	WSMR-43	SWMU 31, 32	Former Chem Waste Evap Tanks @ HELSTF	Surface Impoundment/Lagoon	RC, FY92; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Tanks removed, RCRA closure, 1991(2002 IAP)
34	WSMR-44	SWMU 27-30	HELSTF STP Lagoons (Ponds 1-4)	Surface Impoundment/Lagoon	RC, FY97; IRP ineligible	UK	Apr-00	15-May-00	Yes	NL	Deleted from IRP, CY00; Active site, DD exists, 15 MAY 00; Maintained a NMED GWQB discharge permit (2002 IAP)
35	WSMR-45	SWMU 146	HELSTF STP Dry Pond	Surface Impoundment/Lagoon	RC, FY97; IRP ineligible	UK	Apr-00	15-May-00	Yes	CA	Deleted from IRP, CY00; Active site (2002 IAP)
36	WSMR-46	SWMU 149, 151, 152	HELSTF Septic Systems (3)	Leach Field	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Active site under NMED Construction Industries Division; EPA VI approved Class III permit mod, DEC 95 (2002 IAP)
37	WSMR-47	SWMU 144	HELSTF LSTC Wastewater Discharge	Waste Lines	RC, FY97; IRP ineligible	None	None	n/a	TBD	CA	Deleted from IRP, CY00; Active site; State rejected Class III permit mod, MAR 02; Under NMED GW Bureau (2002 IAP)
38	WSMR-48	SWMU 142	HELSTF Cleaning Facility Sump	Waste Lines	RC, FY97; IRP ineligible	None	None	n/a	TBD	OU	Deleted from IRP, CY00; RCRA Closure (2002 IAP)
39	WSMR-49	SWMU 33, 34	HELSTF Holding (Fluorspar) Tanks	Surface Impoundment/Lagoon	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; EPA VI approved Class III permit mod, DEC 95; Active Neutralization Units Exempt from RCRA – Class III Permit Modification by EPA in 1995 (2002 IAP)
40	WSMR-50	SWMU 35, 36	HELSTF Ethylene Glycol Tanks	Above Ground Storage Tank	RC, FY97	None	None	n/a	TBD	NL	Tanks removed in 1989; 1988 RFA recommended NFA (2002 IAP); Need for DD TBD
41	WSMR-52	SWMU 38, 39	Former HELSTF Landfill	Landfill	RI/FS	None	None	n/a	FY10	OU	Semiannual GWM continues until RI/FS @ WSMR-85 completed; DD to be combined w/WSMR-85.
42	WSMR-53	SWMU 145	HELSTF Test Cell 4 Lagoon	Surface Impoundment/Lagoon	RI/FS	None	None	n/a	FY10	CA	Site reopened, FY03; State rejected JUN 01 Class III permit mod, MAR 02; Investigation under RI/FS @ WSMR-85; DD to be combined w/WSMR-85.
43	WSMR-54	SWMU 143	HELSTF Chromate Spill Site	Spill Site Area	RI/FS	None	None	n/a	FY10	CA	Semiannual GWM continues until RI/FS @ WSMR-85 completed; DD to be combined w/WSMR-85.
44	WSMR-55	SWMU 154	HELSTF Systemic Diesel Spill	Spill Site Area	IRA	None	None	n/a	FY10	CA	IRA will continue w/semiannual GWM until RI/FS @ WSMR-85 completed; DD to be combined w/WSMR-85; IRA remedial system currently being evaluated.
45	WSMR-56	SWMU 137	Paint Shop sump	Waste Lines	RC, FY97	None	None	n/a	TBD	NL	EPA VI approved Class III permit mod, DEC 95 (2002 IAP); Need for DD TBC
46	WSMR-57	SWMU 156	Former Golf Course Pesticide Storage Shed	Spill Site Area	RI	None	None	n/a	FY06	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment required; To complete DD, FY06
47	WSMR-58	SWMU 153	Former Vandal Burial Site	Landfill	RC, FY96	None	None	n/a	FY05	NL	EPA VI approved Class III permit mod, DEC 95 (2002 IAP); Need for DD TBC
48	WSMR-59	SWMU 62	Former STP Imhoff Tank	Sewage Treatment Plants	RC, FY97	None	None	n/a	TBD	NL	EPA VI approved Class III permit mod, DEC 95 (2002 IAP); Need for DD TBD
49	WSMR-60	SWMU 12 (combined w/SWMU 13)	Wash Ramp & Drain/Sump East of Bldg 1778	Spill Site Area	RI	UK	Apr-00	15-May-00	No	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment & background soil metals required; To revise DD, FY06; SWMU 13 combined w/SWMU 12 (2003 AUA)
50	WSMR-61	SWMU 65	Former Main Post Landfill #3 (Scrapyard)	Landfill	RI/FS	Feb-01	None	n/a	FY06	OU	Site reopened, FY04; State requested additional investigation, JUL 03 ; Draft DD, FY05
51	WSMR-62	SWMU 82 (combined w/SWMU 83)	Former STP Percolation Ditches (2)	Drainage Ditch	RI/FS	None	None	n/a	FY06	OU	Groundwater monitoring will continue; CMS Addendum recommends Natural Attenuation; draft DD, FY05
52	WSMR-66	SWMU 162	Stallion Range Center Former FFTA	Fire/Crash Training Area	RC, FY97; IRP ineligible	None	None	n/a	TBD	CA	Deleted from IRP, CY00; MAR 02 IAP cites that site was not included in 1988 RFA or HSWA permit; however, SWMU 162 is on Table B of 2003 AUA
53	WSMR-67	SWMU 121-123	Stallion Asphalt Tanks	Underground Storage Tank	RC, FY93	None	None	n/a	TBD	NL	EPA VI approved Class III permit mod, DEC 95 (2002 IAP); A DD cannot be located, need for DD TBD

TABLE 2: WSMR IRP Sites Listing (Active and Inactive Site)

	IRP ID	RCRA Alias	Site Description	Site Type per AEDBR	Current Phase/Status	Decision Document Status				NMED 2003 AUA Status	Comments
						Draft	Final	Signature Date	Valid DD?		
54	WSMR-68	AOC-S	Sewage Lagoons at Stallion Range Center	Surface Impoundment/Lagoon	RC, FY97; IRP ineligible	UK	Apr-00	15-May-00	Yes	NL	Deleted from IRP, CY00; Active site regulated under NMED GW Bureau (2002 IAP)
55	WSMR-69	AOC-S	Septic Tank/Drainfield @ Rhodes Canyon	Leach Field	RC, FY97; IRP ineligible	UK	Apr-00	15-May-00	Yes	NL	Deleted from IRP, CY00; Active site regulated under NMED's Construction Industries Division (2002 IAP)
56	WSMR-70	SWMU 119, 120	Former Landfill @ Stallion Range Center	Landfill	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Active site regulated under NMED Solid Waste Bureau (2002 IAP)
57	WSMR-71	SWMU 47, 48 (SWMU 49 combined w/SWMU 48)	Former North Oscura Peak Landfill	Landfill	RAC	None	None	n/a	FY06	CA	Voluntary Corrective Measure (VCM) completed JAN 02; VCM Report awaiting NMED review
58	WSMR-72	SWMU 163	Abandoned Disposal Trench @ New Commissary	Landfill	RC, FY95	None	None	n/a	TBD	CA	Site discovered during Commissary construction, 1994; debris removed, soil confirmation samples indicated no contamination present above Subpart S levels (2002 IAP)
59	WSMR-73	SWUM 17	Waste Underground Injection Pipe	Disposal Pit/Dry Well	RI	Apr-00	None	n/a	FY06	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment & background soil metals required; Only draft DD exist, APR 00; however, revise DD, FY06
60	WSMR-74	SWMU 10 and 11	Former Waste Oil Tank/Sump @ Bldg 1778	Underground Storage Tank	RI	Apr-00	None	n/a	FY06	CA	Site reopened, FY03; State rejected Class III permit mod (2002 IAP); Eco risk assessment required; Only draft DD exist, APR 00; however, revise DD, FY06
61	WSMR-75	SWMU 116 (combined w/SWMU 117 & 118)	Rhodes Canyon Subgrade Asphalt Tanks (3)	Underground Storage Tank	RC, FY97	None	None	n/a	TBD	CA	Tanks and soil removed, 1994; Class III permit mod required; No DD found
62	WSMR-76	SWMU 132	Sewage Lagoon @ Oro Grande Range Camp	Sewage Effluent Settling Ponds	RC, FY97; IRP ineligible	Apr-00	None	n/a	TBD	NL	Deleted from IRP, CY00; Active site regulated under NMED GW Bureau (2002 IAP); State rejected Class III permit mod, MAR 02; WSMR-76 part of Ft. Bliss IRP (1997 draft IAP)
63	WSMR-77	SWMU 125	McAfee & Vet Clinic Incinerators	Incinerator	RC, FY97	None	None	n/a	FY06	CA	Incinerator removed, 1986; 1988 RFA recommended NFA; Class III permit mod required (2002 IAP); Currently part of Phase IV DD in AEDBR
64	WSMR-78	SWMU 147	HELSTF Decon Pad & Underground Tank	Underground Storage Tank	RI	None	None	n/a	FY06	CA	Site reopened, FY03; State rejected JUN 01 Class III permit mod, MAR 02; Investigation under RI/FS @ WSMR-85; Currently part of Phase IV AND WSMR-85 DD in AEDBR. This will be corrected in 2005 data call.
65	WSMR-79	SWMU 16	Heavy Equipment Washpad & Drain @ Bldg 1736	Washrack	RI	Apr-00	None	n/a	FY06	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment and soil background metals required; Currently part of Phase II AND WSMR-79 individual DDs listed in AEDBR. This will be corrected in 2005 data call.
66	WSMR-80	SWMU 19 and 20	Steam Washpad, Drain, Oil/H2O Separator @1753	Washrack	RC, FY97; IRP ineligible	Apr-00	None	n/a	TBD	CA	Deleted from IRP, CY00; Active site (2002 IAP); State rejected Class III permit mod, MAR 02; Draft DD exists, APR 00 (Mevatec, 2003); SWMU 19 only listed on 2003 AUA
67	WSMR-81	SWMU 86	Main Post Sanitary Landfill	Landfill	RC, FY97; IRP ineligible	Apr-00	None	n/a	TBD	NL	Deleted from IRP, CY00; Active site regulated under NMED Solid Waste Bureau (2002 IAP); Draft DD exist, APR 00 (Mevatec, 2003)
68	WSMR-82	SWMU 87	Main Post Construction Landfill	Landfill	RC, FY97; IRP ineligible	Apr-00	None	n/a	TBD	NL	Deleted from IRP, CY00; Active site regulated under NMED Solid Waste Bureau (2002 IAP); Draft DD exist, APR 00 (Mevatec, 2003)
69	WSMR-83	SWMU 148	Former Mar Waste Stabilization Pond	Sewage Effluent Settling Ponds	RI	None	None	n/a	FY10	CA	Site reopened, FY03; State rejected JUN 01 Class III permit mod, MAR 02; Investigation under RI/FS @ WSMR-85; DD to be combined w/WSMR-85. Also part of Phase IV DD in AEDBR. This will be corrected during 2005 data call.
70	WSMR-84	SWMU 140	Former LC-37 Paint Dump	Landfill	RI	None	None	n/a	FY06	CA	Site reopened, FY03; State rejected Class III permit mod, MAR 02; Eco risk assessment, soil background metals & confirmation sampling required; WSMR-84 DD to be completed in FY06. This site also listed under Phase IV DD. This will be corrected in 2005 data call.
71	WSMR-85	None	HELSTF Groundwater Study	Contaminated Groundwater	RI/FS	None	None	n/a	FY10	NL	HELSTF comprehensive investigation and includes sites WSMR-52-55, 78 and 83
72	WSMR-86	None	UST at AMRAD	Non-Designated (site not listed in AEDBR)	RC, FY97; IRP ineligible	None	None	n/a	TBD	NL	Deleted from IRP, CY00; Erroneous DSERTS entry (2002 IAP); WSMR-86 not listed in AEDBR but found in March 2002 IAP

Data

Sources: 1) AEDBR Fall 2004 Working Data Call, 2) NMED CY2003 Annual Unit Audit (AUA), NMED letter dated 30 Jun 2004, 3) Brad Davis (MEVATEC), IRP Sites list via 9-19-2002 email from M.Dubbin and 4) March 2002 IAP, MEVATEC.

Sites highlighted in yellow are IRP Non-RC (i.e., "open") sites

AUA =Annual Unit Audit

CA = (RCRA) Corrective Action unit (\$250/yr fee)

GWM =Groundwater Monitoring

N/A =Not Applicable

NL =Not Listed

NS =Not Signed

OU = (RCRA) Operating Unit (\$1500-2000/yr)

1979

- Installation Assessment of White Sands Missile Range, Report No. 138, U.S. Army Toxic and Hazardous Materials Agency , April, 1979

1984

- Part A Revision, EPA ID NO: NM 2750211235, Pache, P., 1984

1987

- Final Contamination Assessment Report Temperature Test Facility, Geoscience Consultants Ltd., May-1987

1988

- Groundwater Contamination Survey No. 38-26-0862-88 Evaluation of Solid Waste Management Unit, U.S. Army Environmental Hygiene Agency, Nov, 1987-Feb, 1988
- RCRA Facility Assessment PR/VSI Report, A.T. Kearney, Aug, 1988

1990

- Draft Hazardous Waste Landfill Closure Report, ASI, Jun, 1990
- RCRA Facility Investigation (RFI) Work plan Appendix I Sites – White Sands Missile Range, NM (Contract DACA 87-88-D-0079, Annex "L"), The EDGE Group, Aug, 1990

1991

- Factors That Effect Performance of In-Situ Soil Venting Operations and Contamination Assessment of Methylene Chloride at the TTF Facility, New Mexico State University, Oct, 1991
- Interim Remedial Measures Work Plan for the Systemic Diesel Spill (SWMU 154), High Energy Laser System Test Facility, Lockheed Engineering and Science Co., Dec, 1991

1992

- Final RCRA Facility Investigation (RFI) Report, Appendix I Sites (Vol. I & II), I.T. Corp., Mar, 1992
- Final HELSTF Groundwater Assessment, I.T. Corp., Dec, 1992
- Final RCRA Facility Investigation (RFI) Report, Appendix II-IV Sites (Vol. I & II), I.T. Corp., Dec, 1992

1993

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WHITE SANDS MISSILE RANGE

INSTALLATION RESTORATION PROGRAM

SITE DESCRIPTIONS

FORMER OSCURA RANGE CENTER LANDFILL

SWMU 157-159

SITE DESCRIPTION

WSMR-05 consists of three separate landfill areas located near the Oscura Range Center (ORC) in the northeastern portion of the Range.

Landfill A (SWMU 157) is located south of the communications building within the ORC cantonment area. Waste including insulated wire, wood, scrap metal, tires, paper, and miscellaneous office materials were deposited into an excavated trench measuring 16 ft x 6.5 ft x 5 ft. Adjacent former waste disposal sites included a scaffold used for draining petroleum/oil/lubricant (POL) from vehicles, scattered small piles of construction and demolition debris, and several smaller and shallower trenches used to bury insulated wire. In June 1998 (Radian, 1998), all wastes described above were excavated and transported to the Lincoln/Otero Regional Landfill. Confirmation soil samples were collected to confirm the absence of contaminants. Prior to debris removal, a survey of the archaeological resources of the landfill was conducted and submitted to the State Historic Preservation Office for approval (HSR, 1998).

Landfill B (SWMU 158) is located 0.5 mi south of ORC. Refuse was dumped on the ground surface at this site until the early 1980's. Waste was similar in volume and type to Landfill A, but included spent flare casings, rubber tires, and a trailer. In June 1998 (Radian, 1998), all wastes were excavated and transported to the Lincoln/Otero Regional Landfill. Confirmation soil samples were collected to confirm the absence of contaminants. Prior to debris removal, a survey of the archaeological resources of the landfill was conducted and submitted to the State Historic Preservation Office for approval (HSR, 1998).

Landfill C (SWMU 159) is situated approximately 2 mi north of ORC between Range Roads 9 and 11. Approximately 3 acres is bladed with little waste visible on the surface. A geophysical survey conducted in April and May 1998 defined buried metal approximately 8-10 ft below grade in an area 200 ft by 30 ft. Non-compacted clean soil covers the site.

An investigation of Landfill C was conducted during FY02 to determine if buried material from the landfill has contaminated soil beneath the site. Soil contamination was not detected. WSMR submitted a RFI Report to the NMED in FY04. Clean closure is recommended in this report to begin after removal of the buried material. Since buried material will be removed from the site, future long term monitoring will not be required.

A Class III Permit Modification (i.e., NFA Petition) for SWMUs 157-159 will be submitted to NMED following completion of clean closure activities.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil

PHASES	Start	End
RFA	199708	199709
RFI	199710	200409
DES	200410	200603
CMI	200510	200709

RC: 200709

WSMR-05 (PAGE 2 OF 2)

FORMER OSCURA RANGE CENTER LANDFILL
SWMU 157-159

CLEANUP STRATEGY

The following activities only address Landfill C (SWMU 159):

- Commence RD/RA activities in FY05
- Implement corrective measure (i.e., buried material removal) in FY06.
- Submit a Class III Permit modification for removal of SWMUs 157-159 from the HSWA Corrective Action Module of the RCRA Part B Permit following completion of RD/RA activities and receiving NMED approval

NUC EFFECTS REACTOR FACILITY (BLDG 21235)

SWMU 160-161

SITE DESCRIPTION

WSMR-09 consists of two inactive waste ponds at the Nuclear Effects Reactor Facility (NERF) located 3 mi south of the Main Post, just northwest of the WSMR El Paso gate (a.k.a., WAR road entrance).

Waste Pond # 1 (SWMU 160) is located southeast of Building 21225, the Laboratory Building, just southeast of the Guard House #1. This pond, deactivated in 1996, was known to receive wastewater from floor drains, sinks, and toilets in Building 21225. Building 21225 served as a wet laboratory from the early 1960's until 1985. The wastewater stream reportedly included human waste and, possibly, laboratory waste (possible radioactive, solvents, metals, and acids). The pond is approximately 50 ft in diameter.

Waste Pond # 2 (SWMU 161) is located east of Building 21235, the Reactor Building. This pond received wastewater from Building 21235 from the 1960's to 1996. Reportedly, only sewage was received. There are no reported releases of radioactive materials, solvents, metals, or acids. However, the pond was physically connected to the Reactor Building and received wastewater from floor drains and sinks, providing a route for potential contaminants. The pond is approximately 45 ft in diameter.

The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) conducted a limited Hazardous and Material Waste Study (Draft No. 37-EF-5482-97) of the two inactive ponds during 6-10 January 1997. Surface soil samples indicated concentrations of arsenic at 16.2 milligrams per kilogram (mg/kg), cadmium 10.4 mg/kg, mercury 4.0 mg/kg, and silver 106 mg/kg, below USEPA Region IX PRGs.

Due to the potential for contaminants other than those tested by USACHPPM, a remedial investigation of the inactive waste ponds was performed in September 1997. This investigation included the collection and analysis of surface and subsurface soil samples. The samples were analyzed for metals, acids, Polychlorinated Biphenyl (PCB's), alpha-beta radiation, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs).

During the September 1997 field investigation, eight soil samples were collected at various depths from each of the waste ponds and analyzed for radiological and non-radiological constituents. Analysis results were used for a site-specific risk based screen. The risk evaluation revealed elevated levels of PCBs (Aroclor 1254 at 5.1 ppm) and Arsenic (4.7 ppm) in surface soil samples. These results warranted soil removal to effectively eliminate any potential exposure pathways.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
PCBs

MEDIA OF CONCERN:
Soil

PHASES	Start	End
RFA	199701	199701
RFI.....	199710	199804
DES	199808	199903
CMI	200105	200609

RC: 200609

NUC EFFECTS REACTOR FACILITY (BLDG 21325)**SWMU 160-161****SITE DESCRIPTION**

The NMED Hazardous Waste Bureau (HWB) published a position paper dated 2 March 2000 titled Risk-based Remediation of Polychlorinated Biphenyls at RCRA Corrective Action Sites. The position paper states "PCB-contaminated soil/sediments should be remediated to either a default concentration of 1 ppm total PCBs or a risk-based PCB concentration level established through performing a health risk evaluation."

A work plan was completed for the waste ponds. A detailed description of field activities was prepared and included in the work plan submitted to the NMED HWB in March 1999. The plan specified methods for excavation, disposal, and backfilling of the waste ponds.

A public meeting was held on 23 February 2000 to solicit public comment concerning the proposed remedial action for this site. The public did not provide comments on this site.

Final remedial activities were completed at Waste Pond #1 (SWMU 160) during May 2001. Approximately 208 cubic yards of soil and debris (concrete and cast iron pipe) were removed and disposed as non-hazardous waste. Confirmation samples were collected which indicated the residual PCB contamination was removed during the excavation. Following excavation, the pond was backfilled and compacted using native soils. A closure report was submitted to the NMED. Subsequently, the NMED submitted a Notice of Deficiency (NOD) in June 2003 following their review of the closure report. Among other comments, the NOD questioned the techniques used and the number of confirmation samples. In response, WSMR re-sampled in May 2004 and submitted the results as part of a Voluntary Corrective Measures (VCM) report discussed below.

Remediation for Waste Pond #2 (SWMU 161) required review of site-specific work procedures by the Army Reactor Council according to NERF personnel. The work procedures for Waste Pond #2 were submitted to the Council in July 2001 and approved in May 2004. Waste Pond #2 was subsequently excavated, confirmation samples obtained and backfilled in June 2004. A VCM report describing field activities as well as confirmation samples taken at Waste Pond #1 was submitted the NMED in December 2004.

The 2004 field activities were originally scheduled for FY06; however, WSMR was able to expedite their execution.

CLEANUP STRATEGY

Await the NMED's review of the VCM report providing them 2004 field activity information. Once approval is obtained from the NMED, a NFA petition will be made for SWMUs 160/161.

WSMR-14 (PAGE 1 OF 2)

FORMER RHODES CANYON LANDFILLS

SWMU 114-115

SITE DESCRIPTION

WSMR-14 consists of two inactive landfills located approximately 0.25 mi northwest of Rhodes Canyon Range Center, 65 mi north of the WSMR Main Post at the intersection of Range Road 6 and Range Road 7.

The start-up date for the oldest landfill (SWMU 115) is unknown but it was closed in 1976, prior to the implementation of RCRA. SWMU 115 is irregularly shaped based on results from a geophysical survey conducted during the Phase I RFI; the southern section is approximately 400 ft across while the northern section is approximately 380 ft long and 120 ft wide.

SWMU 114 is the most recently active area, reportedly receiving waste until approximately 1987. SWMU 114 is located east of SWMU 115 and is approximately 360 ft x 480 ft in size. An 8-ft chain link perimeter fence surrounded the landfill until implementation of corrective measures in 2004. The exact dates of landfill operation could not be determined.

SWMU 114 was reported by the RFA (A.T. Kearney, 1988) to have received office refuse and construction debris from the Rhodes Canyon Range Center. The RFA reported that SWMU 115 received sanitary waste from Rhodes Canyon and inert missile debris from up-range impact areas. The RFA concluded that there was a low to moderate potential for release to soil and groundwater from SWMU 115 based on the lack of documentation on the types of waste managed. The RFA suggested a RFI be conducted to confirm no hazardous constituents were disposed. No further action was suggested at SWMU 114 because it was considered active at the time the RFA was conducted.

The RFI (IT Corp., 1992) concluded that no release is suspected to have occurred from SWMU 115 and recommended that the RFI be discontinued.

From 1996 to present, groundwater samples have been collected semi-annually from one up gradient well and three down gradient wells. No VOCs, SVOCs, or explosive residue compounds have been detected from any of the samples. Chloride and sulfate concentrations have been detected above the New Mexico protection standard. However, elevated concentrations of chloride and sulfate and lesser concentrations of fluoride and nitrate are likely representative of background conditions in this portion of the Tularosa Basin as discussed in past GWM reports.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Heavy Metals, Explosives

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
RFA	198805	198808
RFI.....	199103	200310
CMI	200310	200409
LTM.....	200410	203509

RC: 200409

WSMR-14 (PAGE 2 OF 2)

FORMER RHODES CANYON LANDFILLS
SWMU 114-115

SITE DESCRIPTION

The original landfill soil cover was deficient and there were no surface water control measures in place to prevent storm water run-on onto and off the site. A CMI Work Plan was submitted to NMED on January 15, 2002. The CMI proposed that a landfill soil cover and storm water control structures be designed and constructed to minimize the potential for groundwater contamination from the site. NMED approved CMI workplan in October 2003. CMI work plan was implemented beginning in FY04. Soil cover construction completion occurred in August 2004 along with revegetation efforts, fence construction, signage and drainage controls. The only CMI work plan requirement remaining is the installation of two replacement monitoring wells to provide improved down gradient coverage.

A decision document was completed (including proper signatures) in August 2004 (signed on October 2004).

CLEANUP STRATEGY

Land use controls will continue for an indefinite amount of time and will be reevaluated during the five year reviews.

- Complete installation of up to two, additional, down gradient wells, FY05.
- Commence LTM activities including annual GWM and soil cover/fence maintenance.

WSMR-30

STP SLUDGE WASTE PILE (MAIN POST)

SWMU 80

SITE DESCRIPTION

WSMR-30 was the site of a waste pile consisting of soil/sludge/rubble that was created following a flash flood in 1978 that destroyed the sludge beds (SWMU 79). Sludge, excavated soils and sludge bed debris (e.g. reinforced concrete) were washed from the original sludge bed location and relocated approximately 100 ft to the southeast of the STP sludge beds active as of 2002. The pile was approximately 50 ft - 75 ft long with heights varying from 2 ft to 6 ft.

Between November 1994 and March 1995, sludge from the drying beds and the waste piles 2 ft below ground surface was excavated and containerized. Samples were collected of the sludge, analyzed and found to be within regulatory limits for disposal in the WSMR landfill (Dow, 1996).

A Class III Permit Modification petition for NFA was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including background metals study, confirmation sampling, and ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes a soils background metals study, confirmation sampling, an ecological risk assessment, completion and submittal of a final report (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals, Cyanide

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	198805	198808
SI	198805	198808
RI	199205	200609
IRA	199507	199508
LTM.....	200609	200709

RC: 200609

WSMR-31 (PAGE 1 OF 2)

MAIN POST FORMER FFTA & PIT

SWMU 21

SITE DESCRIPTION

WSMR-31 was the former fire fighting training area (FFTA) located at the southern end of Main Post. During operation of the training area, waste POLs were used to simulate fire emergencies. It is believed the unit was used in the early 1960's and deactivated in 1982 by the WSMR Environmental Services Division. At that time, the unit was excavated to a maximum depth of 8 ft in search of oil-contaminated soils. The unit contained two aboveground storage tanks (AST) on the southern boundary of the site and one partially buried tank on the eastern boundary of the site (i.e., underground storage tank or UST). The two ASTs reportedly held waste jet fuel and waste diesel fuel, while the partially buried tank was used as a holding tank for water. Based on analytical results of soil samples from the Phase II RFI (Sverdrup, 1994), the extent of contamination at SWMU 21 was limited horizontally to the area about the AST's and vertically to the upper 1 ft of soil.

The two ASTs and one UST were removed and disposed properly. On 29-30 January 1996, a 50 ft x 50 ft area was scraped to a depth of one foot below ground surface. The excavated soil was containerized in six roll-off containers for characterization sampling. In addition, six samples were collected six inches beneath the excavation floor. Results of the sampling characterized the roll-off containers and the excavation floor as non-hazardous. However, the TPH level from roll-off container #3 was 220 ppm and was disposed at the WSMR landfill. The remaining containers were used as backfill at the excavation. The closeout report recommended WSMR apply for closure of the site (Dow, 1997).

A Class III Permit Modification NFA petition was submitted to NMED on January 24. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
TPH

MEDIA OF CONCERN: Soil

PHASES	Start	End
ISC	198805	198808
INV	198805	198808
CAP	199607	200709
IRA	199607	199608

RC: 200709

WSMR-31 (PAGE 2 OF 2)
MAIN POST FORMER FFTA & PIT
SWMU 21

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes confirmation sampling and an ecological risk assessment (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

WSMR-32 (PAGE 1 OF 2)

MAIN POST FORMER FFTA WASTE PILE

SWMU 22

SITE DESCRIPTION

WSMR-32 was the abandoned soil piles from the old FFTA. The unit was approximately 25 ft by 50 ft.

On 24-30 January 1996, a 50 ft x 50 ft area was scraped to a depth of one foot below ground surface. The excavated soil was containerized in six roll-off containers for characterization sampling. In addition, six samples were collected six inches beneath the excavation floor. Results of the sampling characterized the roll-off containers and the excavation floor as non-hazardous. However, the TPH level from roll-off container #3 was 220 ppm and was disposed at the WSMR landfill. The remaining containers were used as backfill at the excavation. On 9 April 1996 the contents of the roll-off containers were returned to the excavation for use as backfill material. The area was leveled to match the existing terrain and hydro-seeded on 23 April 1996 with an approved seed mixture. The closeout report (Dow, 1997) documents the removal of SWMU 22 debris and the disposal of the non-hazardous material. The report recommended WSMR apply for closure of the site.

A Class III Permit Modification NFA petition was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including confirmation sampling and an ecological risk assessment. A removal action may occur as a result of this investigation and would occur in FY05. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation and removal phase by the end of FY06. The investigation includes confirmation sampling, an ecological risk assessment and a possible removal action (excavation) (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
TPH

MEDIA OF CONCERN: Soil

PHASES	Start	End
ISC.....	198805	198808
INV.....	198805	198808
IRA.....	199607	199608
CAP.....	199609	200709
IMP(C).....	200409	200709

RC: 200709

WSMR-32 (PAGE 2 OF 2)

MAIN POST FORMER FFTA WASTE PILE

SWMU 22

CLEANUP STRATEGY

A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

WSMR-33 (PAGE 1 OF 2)

USED BATTERY ACCUM AREAS (MAIN POST)
SWMU 14-15

SITE DESCRIPTION

WSMR-33 consisted of two used battery accumulation areas located immediately south (SWMU 14) and approximately 50 ft north (SWMU 15) of the battery shop (Building 1776) in the Main Post Maintenance Area. This open-air facility paved with asphalt was used for the accumulation and storage of batteries. A sump located on the east side of Building 1776 discharges to the Main Post Sewage Treatment Plant. An asphalt lined drainage ditch is also located east of Building 1776. Batteries are no longer stored here and the dates of former battery operations are unknown.

The Phase I and II RFI (IT Corp., 1992 and Sverdrup, 1994) reports both stated that there is no threat of a future release from these areas because they are no longer in use. It was recommended that the RFI be discontinued and a Class III Permit Modification NFA petition be submitted to amend the HSWA Corrective Action Module of the RCRA Part B Permit.

On 22 April 1997, all contents of the sump were removed, sampled, and characterized for proper disposal. The concrete apron and underlying soil on the south side of building 1776 was sampled on 24 April 1997 and determined to be non-hazardous. The concrete apron was demolished and removed on 30 May 1997. A new concrete apron was constructed on 5-10 June 1997 following a confirmation soil sample. From 22-24 April 1997, surface soil covering the drainage ditch was removed and sampled. The soil material was characterized as non-hazardous and disposed at the WSMR landfill. From 2-3 June 1997, asphalt was excavated to a depth of 18 in, containerized and sampled. The asphalt was disposed at the WSMR concrete and asphalt recycling area. Confirmation soil samples were collected from the drainage ditch and characterized as non-hazardous. The drainage ditch area was contoured, compacted and re-paved to match the original drainage ditch on 10-13 June 1997 (Radian, 1997).

A Class III Permit Modification NFA petition was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including a background soil investigation and an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI.....	199407	200709
IRA	199701	199709

RC: 200709

WSMR-33 (PAGE 2 OF 2)

USED BATTERY ACCUM AREAS (MAIN POST)

SWMU 14-15

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes an ecological risk assessment (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

WSMR-36 FORMER WASTE/OIL TANK & SUMP EAST BLDG 1794 SWMU 8-9

SITE DESCRIPTION

WSMR-36 consists of a waste oil tank (SWMU 8) and sump (SWMU 9) located in the Motor Pool Maintenance Area approximately 300 ft east of Building 1794 on the Main Post. The site has been active since the 1950s. In 1990, the underground waste oil tank was replaced with a new aboveground platform-mounted 5,000-gal capacity steel tank encircled with an approximately 2 ft high concrete spillage containment wall. The sump, located just north of the tank, is a prism shaped metal box supported by four legs and is approximately 2 ft above grade. A metal grate to filter out debris covers the sump. Waste oil is transferred from the sump to the waste oil tank via a flexible hose. The waste oil is pumped from the tank and hauled off-site for disposal. In 1996, the existing AST was replaced with a new 4,000-gallons capacity concrete vaulted AST that is still currently being used.

Remedial action for this site was completed by WSMR (Dow, 1997) and consisted of soil sampling and removal of the contaminated soils. Sampling analysis of the soil and the excavated floor tested as non-hazardous.

A Class III Permit Modification NFA petition was submitted on January 24, 2000 to NMED. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes confirmation sampling and an ecological risk assessment (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
POL

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	198805	198808
SI	198805	198808
RI	199405	200709
IRA	199602	199608

RC: 200709

WSMR-41 (PAGE 1 OF 2) TTF METHYLENE CHLORIDE SPILL AREA/VAPOR EXTRACTION SWMU 108

SITE DESCRIPTION

WSMR-41 is the soil vapor extraction system associated with the Temperature Test Facility (TTF) Methylene Chloride (MeCl) spill area. This site is located approximately 2.5 mi east of the Main Post area.

The TTF was designed to simulate extreme weather conditions by inducing a wide range of temperature and climatic variations. After completion of construction in early 1984, the facility consisted of a main test building, several underground storage tanks (USTs) with ancillary piping, and a surface evaporation pond. The original refrigerant used to cool the test chamber was MeCl, which was recycled using the USTs. The surface evaporation pond was used to evaporate process wastewater generated as a by-product of freezing rain tests performed in the test building. The evaporation pond, excavated into the natural sandy soil, was approximately 70 ft wide and 150 ft long [surface area approximately 10,000 ft²], and lined with a High Density Polyethylene (HDPE) liner.

The TTF was originally designed to collect process wastewater in floor drains within the facility and discharge to the evaporation pond via underground pipes. In July 1983, prior to completion of construction, it was discovered that MeCl leaked within the TTF building and was subsequently flushed to the evaporation pond. The leakage occurred due to faulty seals in the coolant system.

In January 1985, it was discovered that the HDPE liner had eroded and leaked the pond's contents to the underlying soil. It was originally estimated that 6,400 lb of MeCl were released from the evaporation pond (GCL, 1987). A study performed by New Mexico State University in 1991 estimated the quantity of the MeCl released to the pond to be approximately 924 lb (NMSU, 1991).

However, additional leaks due to faulty seals in the USTs and ancillary piping released an unknown amount into the sub-surface.

Studies performed at the site indicated that contamination migrated to a depth of approximately 100 ft below ground surface within sandy material.

A thick clay layer located below the MeCl prevents the downward migration of MeCl to groundwater, which resides at approximately 225 ft below ground surface.

WSMR installed an impermeable cap covering soil contamination beneath the evaporation pond and surrounding area in 1990 with approval from the NMED HWB. In 1991, TTF personnel replaced MeCl with Syltherm, an environmentally "safer" heat exchange liquid, as the primary coolant at the facility. Additionally, the coolant system was re-engineered to prevent releases.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
MeCL, Solvents

MEDIA OF CONCERN:
Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI	199405	199501
DES	199501	199502
IRA	198806	198808
CMI(C)	199503	199505
CMI(O)	199505	200709

RC: 200709

WSMR-41 (PAGE 2 OF 2) TTF METHYLENE CHLORIDE SPILL AREA/VAPOR EXTRACTION SWMU 108

SITE DESCRIPTION

In April 1995, WSMR installed a soil vapor extraction system (IRP site WSMR-41) to remove MeCl from the subsurface. The unit consisted of a 500 ft³ per minute positive displacement vacuum blower with a piping and manifold system connected to soil gas monitoring wells. A granular activated carbon (GAC) absorption treatment system was also constructed to treat extracted VOCs prior to discharge to the atmosphere. The clean-up goal for this operation is MeCl concentrations at or less than 50 ppm at the inlet to the soil vapor extraction system. The highest concentration of MeCl extracted from the sub-surface was immeasurable (0.0 ppm) using a portable Flame Ionization Detector. During the summer of 1998, WSMR completed two confirmatory soil borings to determine MeCl concentrations remaining within the soil matrix. MeCl was not detected in any of the soil samples collected from the borings.

In accordance with a September 1993 NMED Post-Closure Care Permit (PCCP), WSMR performs monthly groundwater measurements and inspection of the impermeable cap, and semi-annual groundwater monitoring. Monthly monitoring and inspection activities include the following:

- Measurement of depth to groundwater and total well depth within each of the seven monitoring wells located at the TTF;
- Inspection of the RCRA cap, well condition, and surrounding area; and,
- Completion of the Monthly Post-Closure Care Inspection Sheets.

Additionally, WSMR performs semi-annual groundwater monitoring. Groundwater samples are collected from the four monitoring wells (E1, E2, E3, and E4), and submitted to two separate analytical laboratories for volatile organic compound (VOC). No VOCs have been detected in the groundwater samples.

WSMR submitted a PCCP renewal application in March 2003. However, in September 2004, WSMR submitted a clean closure proposal to the NMED. The proposal is the result of a cooperative effort with the state to demonstrate that the site has been remediated. As a result, the state's review of the PCCP renewal application is on hold so they can review this proposal. In compliance with the existing PCCP, the current RA(O) activities will continue until a determination of future direction is made by the NMED.

The WSMR IRP has begun its 5-year review of the SVE. Although NMED HWB is currently reviewing the request WSMR received verbal approval for ceasing operation of the vapor extraction system in November 2002. The vapor extraction system was dismantled during January 2003. Disposition of the vapor extraction wells will be performed at a later date once a future direction is approved by the NMED.

CLEANUP STRATEGY

Pursue clean closure proposal implementation in FY05. Based on the results of CS (confirmatory sampling) RA(O) may continue, but is not anticipated. Cap maintenance will continue monthly through FY07. Thirty-eight wells will be abandoned in FY07.

WSMR-52 (PAGE 1 OF 2)

FORMER HELSTF LANDFILL

SWMU 38-39

SITE DESCRIPTION

WSMR-52 consists of two construction landfills located east of the HELSTF - High Energy Laser System Test Facility in the southern section of WSMR. Both landfills were in operation from the early 1960s to 1989. The RFA (A.T. Kearney, 1988) described the landfills as two unlined trenches approximately 300 ft x 50 ft x 8 ft. They reportedly received non-hazardous construction waste including wood, piping material, paper, and insulation.

The Phase I RFI (IT Corp., 1992) included a geophysical survey, surface sediment sampling, and a soil vapor survey (SVS). Analysis of the sediment samples did not show significant levels of contaminants of concern.

The Phase II RFI (Sverdrup, 1994) included a SVS, soil sampling, and groundwater sampling in and around SWMUs 38 and 39. The SVS did not detect any constituents of concern above detection limits.

Chromium was detected during the groundwater investigation at 1.3 mg/L above the Federal Maximum Contaminant Level (MCL) of 0.1 mg/L. Chromium was also detected above its MCL at 1.30 mg/L in samples collected during the Spring 2000 groundwater-sampling event. Semiannual groundwater monitoring continues at WSMR-52 and has so since 1997. Currently, five wells are monitored and sampled for various constituents at WSMR-52. Data indicates that the area remains impacted from previous releases.

The previous investigations showed no evidence of erosion, discoloration, or contamination of surface soils. The waste received at this site (wood, piping material, paper, and insulation) does not correspond to the types of potential contaminants detected. This may indicate vapor phase constituents from another source migrating to this area or disposal of items not previously identified.

WSMR-52 is one of several sites being addressed under the Phase III RFI currently funded under IRP site WSMR-85. A Conceptual Site Model (CSM) has been developed as part of WSMR-85 efforts. The CSM considers HELSTF as a single corrective action unit for the purpose of evaluating and determining appropriate remedial options. The CSM was developed using the best available geologic and hydrogeologic information to illustrate the relationships between the different sources of contamination and groundwater.

The Phase III RFI under WSMR-85 commenced in FY03 and will investigate all HELSTF sites under one study as directed by the NMED (Kelly, 1996). WSMR-52 is included in this Phase III RFI.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
Heavy Metals (Chromium)

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI	199103	200909
DES	200910	201003
CMI(C)	200910	201009
LTM.....	201010	204009

RC: 201009

WSMR-52 (PAGE 2 OF 2)
FORMER HELSTF LANDFILL
SWMU 38-39

CLEANUP STRATEGY

Continue with semi-annual groundwater monitoring and investigate this site under the Phase III RFI being conducted and funded under WSMR-85 (BAE, 2004d).

Identify and implement remedial alternatives following the completion of a WSMR-85 corrective measures study (CMS) scheduled to be completed by FY10. If a remedial action is required, it will be addressed and funded under this site. The assumed remedial action is capping the site to include land use controls (fencing, site restriction).

Complete a decision document under WSMR-85 to cover WSMR-52, 53, 54, 55, 78 and 83 in FY10.

Long term groundwater monitoring for 20 years starting in FY10 (previous monitoring has occurred at individual sites 52, 54 and 55) will be funded under WSMR-85. Maintenance of land use controls will occur for an indefinite amount of time and will be funded under WSMR-52.

WSMR-53 (PAGE 1 OF 2)

HELSTF TEST CELL 4 LAGOON

SWMU 145

SITE DESCRIPTION

WSMR-53 consisted of Test Cell 4 Lagoon located approximately 600 ft west of the sewage lagoons (SWMUs 27-30) in the south central section of HELSTF. The dimensions of the unit were 105 ft x 60 ft x 6 ft. The unit had a single 6-mil hypalon liner with no secondary containment. The original purpose for the lagoon was for the discharge of laser effluent from Test Cell 4. The laser was never installed; therefore, the lagoon was never used for its original purpose.

In 1989, a one-time discharge of 30,000 gal of sodium fluoride and sodium hydroxide wastewater from the Test Cell 1 pressure recovery system was released into the lined lagoon. The liner failed and the wastewater leaked into the ground.

A Phase I RFI (I.T. Corp., 1992) was conducted in 1992 and included a composite sediment sample from within the lagoon, a background soil sample, and installation of a groundwater monitoring well (HMW-09). Low levels of naturally occurring arsenic and fluoride were detected in the background sample. The composite sediment sample contained low levels of lead, arsenic, fluoride, and TPH at or below detection limits and/or regulatory limits. The ground-water sample revealed concentrations of selenium and fluoride at background levels and chloroform below action levels. The RFI recommended that WSMR submit a Class III Permit Modification for no further action at this site.

A Phase II RFI (Sverdrup, 1994) was conducted in 1994 and included the installation of three monitoring wells (HMW-44, HMW-45, and HMW-46). Soil samples were collected during the installation of the wells at 20 ft intervals and analyzed for VOCs, SVOCs, RCRA metals, and fluoride. VOCs and SVOCs were not detected. Detected concentrations of metals including arsenic, barium, chromium, lead, silver, and fluoride were at or below background/regulatory levels. Ground-water samples were collected from HMW-9, HMW-44, HMW-45, and HMW-46 and analyzed for VOCs, SVOCs, metals, fluoride, TDS, TPH, and hexavalent chromium. 1,1-Dichloroethene, lead, selenium, and fluoride exceeded their respective MCLs.

Following the Phase II RFI, remedial action was conducted at SWMU 145 to remove the lagoon and excavate possible contaminated soil. During April 1996, the liner and two feet of soil beneath were removed, containerized and sampled for characterization. In addition, nine confirmation samples were collected from a depth of two to three feet beneath the excavation floor. All samples were characterized and determined to be non-hazardous. The lagoon subsequently backfilled during May 1996. The area was graded and paved in August 1996 to minimize precipitation infiltration into the area. The close out report documenting site cleanup recommended that WSMR apply for closure of the site (Dow, 1997).

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	198805	198808
SI	198805	198808
RI	199206	200809
IRA	199606	199607

RC: 200809

WSMR-53 (PAGE 2 OF 2)
HELSTF TEST CELL 4 LAGOON
SWMU 145

SITE DESCRIPTION

A Class III Permit Modification NFA petition was submitted on January 24, 2000 to NMED to remove this site from the HSWA Corrective Action Module of the RCRA Part B Permit. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including a background soil investigation and an ecological risk assessment. **This investigation will be a part of the Phase III RFI at WSMR-85.**

CLEANUP STRATEGY

Investigation of this site is included in the Phase III RFI for HELSTF being conducted under WSMR-85 (BAE, 2004d).

Complete a decision document under WSMR-85 to cover WSMR-52, 53, 54, 55, 78 and 83 in FY10.

Anticipate No Further Action.

All funding will be addressed under WSMR-85.

WSMR-54 (PAGE 1 OF 2)

HELSTF CHROMATE SPILL SITE

SWMU 143

SITE DESCRIPTION

WSMR-54 consists of a hexavalent chromium spill (SWMU 143) located at the east corner of the HELSTF Equipment Storage Area (SWMU 141). This site is the result of an accidental spill that occurred in the early 1980's when unused Entec 300, a hexavalent chromium (Cr⁺⁶) based corrosion inhibitor, was accidentally released into the soil from leaking 55-gallon storage drums.

The Phase I RFI (IT Corp., 1992) indicated slightly elevated total chromium concentrations (up to 14 mg/kg) from soil borings in the spill area. A groundwater sample showed hexavalent chromium, total chromium, and 1,1-dichloroethylene levels exceeding Federal and State maximum contaminant levels (MCLs) and State groundwater protection standards.

The Phase II RFI (Sverdrup, 1994) indicated chromium contamination (total dissolved and hexavalent) in nearby monitoring wells, exceeding the Federal and State MCLs and the State groundwater protection standards. In addition, 6 solvent type organic compounds (BTEX) were also detected. These compounds were attributed to the neighboring diesel spill (IRP site WSMR-55; SWMU-154).

Semiannual groundwater monitoring continues at WSMR-54 and has so since 1995. Data indicates that the area remains impacted from previous releases. Currently, nine wells are monitored and sampled for various constituents at WSMR-54.

Preliminary remedial efforts at this site included partial excavation of the contaminated soil and in-situ gaseous reduction (pilot study). The reduction pilot study, conducted by the Pacific Northwest National Laboratory and funded by the Department of Energy (DOE, 1999), involved injecting diluted hydrogen sulfide to immobilize and reduce the hexavalent chromium to its non-toxic trivalent form. This project resulted in the successful reduction of at least 70 % of the hexavalent chromium to trivalent chromium.

WSMR-54 is one of several sites being addressed under the Phase III RFI currently funded under IRP site WSMR-85.

A Conceptual Site Model (CSM) has been developed as part of WSMR-85 efforts. The CSM considers HELSTF as a single corrective action unit for the purpose of evaluating and determining appropriate remedial options. The CSM was developed using the best available geologic and hydrogeologic information to illustrate the relationships between the different sources of contamination and groundwater.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
Metals, Solvents

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
IRA	199808	199812
RFI.....	199103	200909
DES	200910	201009
CMI(C)	201010	201109
CMI(O)	201109	202109

RC: 202109

WSMR-54 (PAGE 2 OF 2)
HELSTF CHROMATE SPILL SITE
SWMU 143

SITE DESCRIPTION

The Phase III RFI under WSMR-85 commenced in FY03 and will investigate all HELSTF sites under one study as directed by the NMED (Kelly, 1996).

CLEANUP STRATEGY

Continue monitoring 9 wells semi-annually (funded under this site until FY10)

Investigate this site under the Phase III RFI being conducted under WSMR-85 (BAE, 2004d).

Identify and implement remedial alternatives following the completion of a WSMR-85 corrective measures study (CMS) scheduled to be completed by FY10.

Assumed remedial action includes groundwater extraction wells, metals precipitation, air stripping, and carbon adsorption. Operation of the system for 10 years beginning in FY12.

Injection of hydrogen peroxide is the presumptive remedy for contamination in soil

Complete a decision document under WSMR-85 to cover WSMR-52, 53, 54, 55, 78 and 83 in FY10.

Long term groundwater monitoring for 20 years starting in FY10 (previous monitoring has occurred at individual sites 52, 54 and 55) will be funded under WSMR-85.

WSMR-55 (PAGE 1 OF 2)

HELSTF SYSTEMIC DIESEL SPILL

SWMU 154

SITE DESCRIPTION

WSMR-55 is located in the vicinity of the HELSTF Cleaning Facility (HCF) (SWMU 142), Building 26131, and consists of subsurface diesel contamination. The diesel spill was discovered during the investigation of the HCF where a drain line leading to a sump failed resulting in the release of spent cleaning solvents. During the investigation of the HCF, a large volume of diesel fuel in solution with the cleaning solvents was discovered. The diesel fuel came from a 30,000 gallon UST that provided fuel to the HCF through a 2 inch underground steel pipeline. The pipeline failed when portions of it were corroded by the naturally occurring alkaline soil in the HELSTF area.

The UST was removed in April of 1988. An IRA was initiated in 1993 that included installation of wells designed to recover separate phase diesel fuel floating on the shallow perched water-bearing zone (Tetra Tech, 1994). The remediation system consists of a Vacuum Enhanced Diesel Recovery System (VEDRS). WSMR is currently evaluating this system and considering other potential options to increase product recovery at this site that includes replacing the existing system with a more efficient and cost effective alternative.

Semiannual groundwater monitoring continues at WSMR-55 and has so since 1998. Data indicates that the area remains impacted from previous releases. Currently, 11 wells are monitored and sampled for various constituents at WSMR-55. During FY05, sampling efforts are being modified slightly to include evaluation of the adjacent and commingled contamination plume related to SWMU 142, the HCF. In years past, SWMU 142 was monitored by the USGS in a separate effort that was duplicative to that occurring at WSMR-55. As part of the overall effort to environmentally investigate and manage the HELSTF area holistically, it was determined that combining these GWM efforts would be beneficial to both the Army and the NMED.

WSMR-55 is one of several sites being addressed under the Phase III RFI currently funded under IRP site WSMR-85. A Conceptual Site Model (CSM) has been developed as part of WSMR-85 efforts. The CSM considers HELSTF as a single corrective action unit for the purpose of evaluating and determining appropriate remedial options. The CSM was developed using the best available geologic and hydrogeologic information to illustrate the relationships between the different sources of contamination and groundwater.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
Diesel

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI	199206	199407
IRA	199408	200909
DES	200910	201009
CMI(C)	201010	201109
CMI(O)	201109	202112

RC: 202112

WSMR-55 (PAGE 2 OF 2)

HELSTF SYSTEMIC DIESEL SPILL

SWMU 154

SITE DESCRIPTION

The Phase III RFI under WSMR-85 commenced in FY03 and will investigate all HELSTF sites under one study as directed by the NMED (Kelly, 1996).

CLEANUP STRATEGY

Continue monitoring 11 wells semi-annually (funded under this site until FY10)

Investigate this site under the Phase III RFI being conducted under WSMR-85 (BAE, 2004d).

In addition, use the obtained GWM data to evaluate releases from SWMU 142.

Identify and implement remedial alternatives following the completion of a WSMR-85 corrective measures study (CMS) scheduled to be completed by FY12.

Assumed remedial action will be air sparging, soil vapor extraction and in-situ biodegradation.
Operation of the system for 10 years beginning in FY10

Complete a decision document under WSMR-85 to cover WSMR-52, 53, 54, 55, 78 and 83 in FY10.

Long term groundwater monitoring starting in FY10 will be funded under WSMR-85.

WSMR-57 FORMER GOLF COURSE PESTICIDE STORAGE SHED SWMU 156

SITE DESCRIPTION

WSMR-57, Building T-1348, was located at the Main Post Golf Course. This site consisted of a Butler-Style metal building with a wooden floor. The building was used for more than 30 years to store pesticide, fungicide, and pesticide application equipment. The building was removed and the wooden flooring was stored in a pile on the concrete foundation of the former structure. A plastic cover was placed over the debris pile. The foundation dimensions measured 20 ft x 50 ft. RFI (IT Corp., 1992 and Sverdrup, 1994) findings indicated the presence of low level VOCs and pesticides in the area.

Prior to remedial activities, 10 soil samples were collected at depths of 0-1 ft and 1-2 ft below ground surface in 5 soil borings at the storage shed site. Two composite wood samples were collected from the stored wood debris. All samples were characterized as non-hazardous. The concrete foundation, wood floor, plastic cover, and two feet of soil taken from the building footprint were disposed at the WSMR landfill on 24 February 1995. Three confirmatory soil samples were collected from the building footprint and analyzed. Constituents detected were below regulatory limits (Dow, 1996).

A Class III Permit Modification NFA petition was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not comment on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes an ecological risk assessment. A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
Pesticides, Fertilizers

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI	199204	200709
IRA	199508	199508

RC: 200709

WSMR-60

WASH RAMP & DRAIN/SUMP EAST OF BLDG 1778

SWMU 12-13

SITE DESCRIPTION

WSMR-60 consists of the vehicle wash ramp and drains, and the sump and oil/water separator situated east of Building 1778 and west of Building 1776 in the Main Post Maintenance Area. The units have been active since the mid 1950s. The vehicle wash ramp (SWMU 12) consists of a concrete pad approximately 40 ft long and 15 ft wide with an open metal work ramp erected above the concrete pad. The pad slopes toward the drain (at the center of the pad) that discharges into a 200 gallon sump and oil/water separator (SWMU 13) at the south end of the drain. The separator/sump is constructed of reinforced concrete and covered by a metal grate. Separation of water, oil and debris is accomplished by gravity. The waste oil and debris from the sump/separator are periodically transferred to the waste oil tank (SWMUs 8 and 9) while rinse water is piped to the STP (SWMUs 66-78).

Both Phase I (IT Corp., 1992) and Phase II (Sverdrup, 1994) RFIs found no significant release of contaminants at this site. The ramp portion of the facility was dismantled in 1997 and removed as scrap.

A Class III Permit Modification NFA petition was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including a background soil investigation and an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes a background soil investigation and an ecological risk assessment. A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
POLs, Solvents

MEDIA OF CONCERN: Soil

PHASES	Start	End
ISC.....	198805	198808
INV.....	198805	198808
CAP.....	199206	200709

RC: 200709

WSMR-61 (PAGE 1 OF 2)

FORMER MAIN POST LANDFILL #3 (SCRAPYARD)

SWMU 65

SITE DESCRIPTION

WSMR-61 is a former landfill (SWMU 65) located in the southeast portion of Main Post. This site reportedly operated from 1965 to 1982. Since becoming inactive, the northern portion of the landfill was fenced and used as the WSMR scrap metal accumulation point until it was closed in June 2000. The site area is approximately 55 acres.

No historical information is available on the design, construction or operating procedures of this unit. Additionally, no documentation of a release from this unit was found.

Monitoring wells were installed during the Phase II RFI (Sverdrup, 1994). This investigation indicated that no release of contaminants has occurred. WSMR concluded that the RFI for SWMU 65 be discontinued since no release of contaminants could be identified at the site. Conclusions of the Phase II recommended that a request for a Class III Permit Modification be

submitted by WSMR to terminate the RFI/CMS for the unit. However, it was recommended and decided that the SWMU be monitored semiannually because of its proximity to the freshwater aquifer utilized by WSMR. WSMR conducted GWM activities from 1996 until 2001 and ceased after submitting the June 2001 RFI report described below.

A 5-year review, completed in September 2000, determined that no human or environmental risk exists at the site. WSMR completed the final RFI report during June 2001 to document all actions at this site. Since no risk has been identified, the original remedial action plan to place an additional cap on the landfill has been abandoned.

In July 2003, WSMR received state comments on the June 2001 RFI report. NMED requested supplemental information pertaining to the RFI report. The state requested information on background soil metals, TPH levels in groundwater and a reevaluation of the groundwater monitoring system. WSMR is currently developing a work plan to address NMED's concerns.

In general, NMED's concerns include alleged deficiencies concerning soil and groundwater background concentrations, total petroleum hydrocarbons levels detected in groundwater and detections of VOCs, SVOCs, TPH and metals in soil. A total of eight comments were received from NMED in their 14 July 2003 letter. WSMR response includes a background soil study, groundwater sampling and evaluation of the groundwater monitoring system. The state regulators have requested that additional downgradient monitoring wells be installed. However, an evaluation of the existing groundwater monitoring system will determine the exact needs for additional wells.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals, TPH

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI	199103	200809
DES	200810	200903
CMI(C)	200810	200909
LTM	200910	203409

RC: 200909

WSMR-61 (PAGE 2 OF 2)

FORMER MAIN POST LANDFILL #3 (SCRAPYARD)

SWMU 65

CLEANUP STRATEGY

WSMR will address the state's comments on the June 2001 RFI report. WSMR is developing a work plan to address NMED's concerns. The work plan will be completed and submitted to NMED during FY05. Fieldwork will commence immediately following work plan approval is received from the state. Assumed remedial action will be a 55 acre soil cover, cap maintenance, and land use controls for an indefinite amount of time. Groundwater monitoring for 25 years.

WSMR-62 (PAGE 1 OF 3)

FORMER STP PERCOLATION DITCHES (2)

SWMU 82-83

SITE DESCRIPTION

WSMR-62 consists of two excavated soil ditches located immediately east of the WSMR Sewage Treatment Plant (STP) and approximately 2 mi east of Main Post. These ditches were used from 1958 until 1986 as discharge trenches for STP effluent. Effluent from the STP has been discharged to the Davies Tank playa lake since closure of the percolation ditches in 1986.

The north drainage ditch (SWMU 82) extends from the STP headgate approximately 1,000 ft to a dry impoundment approximately 600 ft x 600 ft x 12 ft. This impoundment was reportedly constructed as an infiltration/evaporation pond for the STP wastewater. The south drainage ditch (SWMU 83) originates at the STP adjacent to the north drainage ditch. This ditch flowed easterly approximately 500 ft to a natural shallow depression.

A Phase I RFI (IT Corp., 1992) was conducted at SWMUs 82 and 83. Forty-one soil samples were collected along the length of the drainage ditches and analyzed for VOCs, SVOCs, metals, and total cyanide. Only chromium (collected at 1-ft depth) was detected above action levels.

During the Phase II RFI (Sverdrup, 1994) eighteen soil samples were collected from nine locations along the length of the ditches. All samples were analyzed for RCRA metals and total cyanide. Total chromium was detected below the hexavalent chromium Subpart S level of 400 mg/kg. Groundwater samples collected from a nearby United States Geological Survey (USGS) monitoring well (T-29) indicated total cyanide (0.229 mg/L) above federal and state action levels (0.2 mg/L).

Remediation of SWMUs 82 and 83 included the excavation of approximately 4,000 yds³ of soil from the two ditches during May-June 1997. The excavated soil was characterized by chemical analysis as non-hazardous and disposed at the Main Post Landfill. Following excavation, the area was graded to blend with the adjoining area. A total of 149 confirmation soil samples were collected from the ditches and the playa lake area during June 1997. The samples were analyzed and characterized as non-hazardous (Radian, 1997).

Five groundwater sampling events were conducted between August 1996 and February 1997. Groundwater samples were collected from monitoring wells up gradient and down gradient from WSMR-62.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Cyanide

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI.....	199103	200909
CMI(C)	200503	200909
CMI(O)	200910	203009

RC: 203009

WSMR-62 (PAGE 2 OF 3)

FORMER STP PERCOLATION DITCHES (2)

SWMU 82-83

SITE DESCRIPTION

These wells were installed under a separate work effort to establish background water quality at the Main Post Landfill in compliance with New Mexico Solid Waste Management Regulations and in support of a solid waste landfill permitting application. A full baseline analysis was performed that indicated concentrations of cyanide in excess of the New Mexico Water Quality Control Commission (NMWQCC) and EPA standards (0.2 mg/L) for cyanide in groundwater.

A risk assessment of the site was conducted during 1999 that evaluated the potential for exposure to contaminants. Constituents detected were compared to USEPA Region IX PRGs. Aluminum, fluoride, iron, lead, nitrate, nitrite and cyanide were detected above their respective PRGs and were determined to require further risk evaluation. Estimates of potential exposure levels were formulated and an evaluation of toxicity for those estimates was conducted. A hazard index greater than 1.0 is considered an unacceptable risk. Hazard indices for the detected constituents were all less than 1.0 using an industrial land-use scenario. Only cyanide had a hazard index greater than 1.0 for a residential scenario. It is not anticipated that this site will be developed for residential use, nor is it anticipated that a production well for drinking water would ever be installed. [Note: However, current NMED policy requires risk assessments be conducted using a residential scenario.]

An investigation of cyanide contamination in groundwater was initiated to delineate the lateral and vertical extent of groundwater contamination. Six monitoring wells were drilled in the Main Post Landfill/STP area, sampled, and analyzed for total cyanide and a suite of sewage effluent-related constituents. The delineation study was inconclusive and an additional 17 monitoring wells were drilled; 11 groundwater interface wells and 6 wells designed to monitor water-bearing zones below the groundwater interface. A Draft Site Characterization Report was filed on 26 February 1999 with NMED. The wells were sampled semi-annually through 1999. Cyanide and effluent-related constituent concentrations were monitored to help determine necessity and feasibility of remedial action.

A CMS evaluating available technologies for remediation of the groundwater contamination was filed with NMED on 21 August 2000. The CMS recommended that monitored natural attenuation (MNA) was the best current technology for remediating the site. Quarterly groundwater monitoring occurred between 2000 and 2001 of 35 monitoring wells. Since 2002, 30 wells have been monitored semiannually.

WSMR received state comments on the CMS in July 2003. The comments were in the form of a Notice of Deficiency (NOD) requesting additional data to support a WSMR recommendation to implement a monitored natural attenuation action plan. WSMR and the State agreed that an addendum to the August 2000 CMS would be adequate to address the NOD. The CMS Addendum, dated January 2004, was submitted to NMED the same month (BAE, 1994a). NMED responded in July 2004 stating that evidence justifying MNA was inadequate. Following an August 2004 WSMR response which recommended continuing GWM activity for five years in order to gather more data to support the MNA proposal, NMED responded (November 2004) granting WSMR permission to conduct such GWM activity until August 2005. NMED stated that if adequate supporting data can not be gathered by such time, WSMR must recommend an alternative remedial action.

WSMR-62 (PAGE 3 OF 3)

FORMER STP PERCOLATION DITCHES (2)

SWMU 82-83

CLEANUP STRATEGY

Continue semi-annual groundwater monitoring at WSMR-62 in support of the MNA proposal.

Install additional monitoring wells to provide additional characterization per NMED direction.

Using the latest GWM data gathered during early 2005, recommend a plan of action to NMED by August 2005.

It is anticipated that MNA (semi-annual monitoring of 30 wells) will be the final remedy for this site.

WSMR-71 (PAGE 1 OF 2)

FORMER NORTH OSCURA PEAK LANDFILL

SWMU 47-49

SITE DESCRIPTION

WSMR-71 consists of three landfill cells located in the Oscura Mountains in the northern section of WSMR. The start up date for the landfill is unknown. A small open trench (SWMU 47) was oriented approximately east-west with approximate dimensions of 40 ft x 50 ft x 5 ft. This trench was reportedly used to dispose septic waste but wire and various waste materials were visible. Another open trench (SWMU 48) was above the surrounding grade with little vegetation and disturbed soil. The trench was oriented north-south and its dimensions were approximately 120 ft x 5 ft x 6 ft. Material visible in the trench included: glass and plastic bottles, wiring, wood, and miscellaneous waste. A mound of dirt approximately 10 ft high was situated at the north end of this trench.

The third trench (SWMU 49) measures approximately 100 ft x 8 ft x 6 ft and was covered with soil.

Investigations to include drilling and sampling of the trench were completed. Waste identified included wood, wire, plastic, and metal debris. Soil and waste analysis determined that both are non-hazardous and within Federal Land Disposal Restrictions.

Although the North Oscura Peak (NOP) Landfill was identified during the 1988 RFA (A.T. Kearney, 1988), SWMUs 47-49 were not included in the Phase I and Phase II RFIs. However, an investigation of the SWMUs was conducted in 1997 (including information discussed above). Twelve soil borings were taken at the former landfill to characterize the nature and extent of the waste. The results of the investigation are included in the CMI work plan (Mevatec, 1999). The work plan was submitted to NMED on 16 August 1999 and proposed corrective action at the SWMUs to include excavating the waste materials for disposal at an approved, offsite, solid waste disposal facility. Laboratory analyses of soil samples taken following waste excavation would determine whether further corrective action was necessary.

A public meeting was held on 23 February 2000 to solicit public comment concerning the proposed remedial action for this site. The public did not comment on this site.

Voluntary corrective measures (VCM) began at this site in December 2001, but were suspended after the discovery of unexploded ordnance in the landfill. The ordnance was confirmed inert by Explosive Ordnance Disposal (EOD). A review of Federal and State regulations, as well as Department of Army policies as they pertain to inert ordnance was subsequently completed. The findings of the review were included in a letter report dated 11 January 2002 and provide recommendations for completing the project. The recommendations include screening the excavated material for ordnance and other prohibited material prior to transportation to the permitted landfill.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals, Organics

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI.....	199105	199801
DES	199903	199908
CMI(C)	200111	200609

RC: 200609

WSMR-71 (PAGE 2 OF 2)

FORMER NORTH OSCURA PEAK LANDFILL

SWMU 47-49

SITE DESCRIPTION

Corrective measures were completed in early 2002. All buried debris was removed from the landfill and transported offsite for proper disposal. It was recommended that no further action was required at this site. A VCM report was submitted to the state in 2004 (BAE, 2004b).

CLEANUP STRATEGY

Complete a site decision document upon receipt of NMED approval of VCM activities.

Estimated DD completion date is September 2006.

No further action is anticipated.

WSMR-73 (PAGE 1 OF 2)

WASTE UNDERGROUND INJECTION PIPE

SWMU 17

SITE DESCRIPTION

WSMR-73 was the suspected site of a former underground injection pipe located at the southwest corner of Building 1753, the Heavy Equipment Maintenance Shop. No information was available on the dates of operation, physical parameters, or depth of burial. According to the RFA (A.T. Kearney, 1988), this pipe was placed in the ground in a vertical position allowing for liquid wastes (e.g. waste oils and degreasing solvents) to be poured into the open end.

During the Phase I RFI (I.T. Corp., 1992), a SVS was performed which detected only CO₂ at near background levels. In an attempt to locate the pipe, a metal detector was used over a 50 ft x 50 ft grid in the pipe's supposed location. The pipe was suspected to have been located despite some subsurface interference.

During the Phase II RFI (Sverdrup, 1994) soil sampling and a soil vapor survey were conducted at the suspected pipe location as described in the Phase I RFI. The survey and sampling did not reveal evidence of contamination from the former injection pipe and could not confirm that the pipe ever existed. It was determined that further remedial action was not necessary and that a Class III Permit Modification should be completed.

A Class III Permit Modification NFA petition was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including a background soil investigation and an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes a background soil investigation and an ecological risk assessment (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
TPH, Solvents

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI.....	199205	200709

RC: 200709

WSMR-73 (PAGE 2 OF 2)

WASTE UNDERGROUND INJECTION PIPE

SWMU 17

CLEANUP STRATEGY

A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

FORMER WASTE OIL TANK/SUMP @ BLDG 1778

SWMU 10-11

SITE DESCRIPTION

WSMR-74 consists of a vehicle wash pad and drains (SWMU 10), and the sump and oil/water separator (SWMU 11) situated west of Building 1778 in the Main Post Area. The units are thought to have been in operation since the mid-1950s. The concrete wash pad, 30 ft x 30 ft, is encompassed by a 2 ft x 2 ft drain covered with a metal grate. The drain is constructed of concrete and slopes towards the 500-gal sump and oil/water separator located at the northwest corner of the vehicle wash pad. The separator is constructed of concrete and covered by a metal grate. Separation of water, oil, and debris is accomplished by gravity. The water is discharged to the sewage treatment plant (SWMUs 66-78) while the oil and debris are periodically transferred to the waste oil storage tank.

The Phase I RFI (I.T. Corp., 1992) included a SVS and the collection of one surface sediment sample from an asphalt lined drainage ditch into which effluent from SWMUs 10-11 formerly drained via a buried pipe. A shallow background soil sample was also collected.

The Phase I RFI concluded that the data do not indicate a release of contaminants.

The Phase II RFI (Sverdrup, 1994) included a SVS and soil sampling at the site. No evidence of contamination from the wash pad, drains or sump was revealed. A Class III Permit Modification was recommended.

A Class III Permit Modification NFA petition was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes an ecological risk assessment (funded in FY03-04). This site is funded under WSMR-30.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals, POL, Solvents

MEDIA OF CONCERN:
Soil

PHASES	Start	End
ISC.....	198805	198808
INV.....	199003	199003
CAP.....	199205	200709
IRA.....	199003	199003

RC: 200709

FORMER WASTE OIL TANK/SUMP @ BLDG 1778

SWMU 10-11

CLEANUP STRATEGY

A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

HELSTF DECON PAD & UNDERGROUND TANK

SWMU 147

SITE DESCRIPTION

WSMR-78 was a decontamination pad and underground holding tank located adjacent to the southeast corner of HELSTF Building 26131. This site began operation in 1982. The unit reportedly consisted of a 3 ft x 5 ft x 6.5 ft deep underground waste tank with an open top that was covered with a grate and a steel cover. Wastewater/debris from the decontamination pad flowed down the drain and into a sump prior to entering the tank. The pad was used occasionally for cleaning large pieces of equipment that could not be cleaned inside Building 26131.

The Phase II RFI (Sverdrup, 1994) determined that the decontamination pad underground waste tank, for which this SWMU was created, did not exist. Historical drawings documented that the underground tank was actually an aboveground tank and the only remaining unit was the sump. Results of the RFI determined that no release of contaminants had occurred at this site.

The decontamination pad waste underground tank was not identified in either of the two RFAs reported in 1988. As a consequence this site was not part of the initial HSWA Operating Permit issued September 29, 1989. In January 1996, confirmatory soil samples were collected from beneath the sump. Analysis revealed the soil beneath the tank to be non-hazardous. The sump was subsequently filled with concrete for closure in place. Drummed liquids and sludge waste were disposed off site (Dow, 1997).

A Class III Permit Modification NFA petition was submitted on January 24. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including an ecological risk assessment. This investigation will be a part of the Phase III RFI at WSMR-85.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
Solvents, POLs

MEDIA OF CONCERN: Soil

PHASES	Start	End
ISC	198805	198808
INV	199408	199410
CAP	199410	200809
IRA	199608	199608

RC: 200809

HELSTF DECON PAD & UNDERGROUND TANK SWMU 147

CLEANUP STRATEGY

- Investigation of this site is included in the Phase III RFI for HELSTF being conducted under WSMR-85 (BAE, 2004d).
- Anticipate No Further Action.
- Complete a decision document (funded under WSMR-85) to cover WSMR-52, 53, 54, 55, 78 and 83 in FY10.
- All funding will be addressed under WSMR-85.

WSMR-79 (PAGE 1 OF 2)

HEAVY EQPT WASHPAD & DRAIN @ BLDG 1736

SWMU 16

SITE DESCRIPTION

WSMR-79 is a heavy equipment wash pad (SWMU 16) located in the southern section of the Main Post, west of Building 1736. The unit has been active since the 1960s. The heavy-equipment vehicle maintenance shop is located west of this site. The wash pad area is a 50 ft x 40 ft concrete pad that slopes towards the center where a grate-covered drain is located. A 6 in curb rims the south end of the concrete pad. This pad is entirely edged by gravel. The drain discharges into an asphalt-lined drainage ditch located immediately to the south of the unit and runs east for approximately 545 ft.

The facility was identified in the 1988 RFA (A.T. Kearney, 1988) and included in the Phase I and Phase II RFIs (I.T. Corp., 1992 and Sverdrup, 1994 respectively). Soil and sediment sampling detected metals below applicable screening action levels. An elevated TPH concentration (above the New Mexico standard of 1,000 ppm) was attributed to the asphalt lining the drainage ditch. A soil vapor survey did not detect target VOCs. In comments to the Phase II RFI, NMED recommended removing the site from the HSWA Corrective Action Permit.

A Class III Permit Modification NFA petition was submitted on January 24, 2000. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including a background soil investigation and an ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes a background soil investigation and an ecological risk assessment (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities. A decision document will also be completed in FY06 (funded under WSMR-30).

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
TPH, Solvents

MEDIA OF CONCERN: Soil

PHASES	Start	End
ISC	198805	198808
INV	199206	199212
CAP	199206	200709

RC: 200709

HEAVY EQPT WASHPAD & DRAIN @ BLDG 1736 SWMU 16

CLEANUP STRATEGY

Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

WSMR-83 HELSTF FORMER MAR WASTE STABILIZATION POND SWMU 148

SITE DESCRIPTION

WSMR-83 was the Multi-Function Array Radar (MAR) Waste Stabilization Pond (SWMU 148) that was used to treat sanitary waste in the 1960s. The site was an unlined surface impoundment with dimensions of approximately 110 ft x 130 ft x 7 ft. SWMU 148 was backfilled and paved in the early 1980's and is located at the south end of the current HELSTF Equipment Storage Area (SWMU 141).

No evidence of release was detected from this site during the Phase I (IT Corp., 1992) or Phase II (Sverdrup, 1994) RFI. The Phase II recommended a Class III Permit Modification.

The EPA Region VI approved a Class III Permit Modification dated 31 December 1995 for No Further Action at SWMU 141. A Class III Permit Modification NFA petition was submitted on January 24, 2000 to NMED. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2).

The state disapproved the petition in March 2002. The state requested additional investigation including an ecological risk assessment. This investigation will be a part of the Phase III RFI under WSMR-85 including any future LTM requirements. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Investigation of this site is included in the Phase III RFI for HELSTF being conducted under WSMR-85 (BAE, 2004d).

Anticipate No Further Action.

Complete a decision document under WSMR-85 to cover WSMR-52, 53, 54, 55, 78 and 83 in FY10. All funding will be addressed under WSMR-85.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198905	199410
RFI.....	199205	200809

RC: 2000809

WSMR-84 FORMER LC-37 PAINT DUMP SWMU 140

SITE DESCRIPTION

WSMR-84 was a paint dump area located approximately 12 mi east of the Main Post. This site consisted of a 10 ft x 30 ft x 8 ft open trench, containing paint and solvent cans, construction debris, 55 gal drums, and wire. A berm exists on the north side of the trench to divert run-on water. The site is currently closed and the dates of usage are unknown.

SWMU 140 was not included in the initial RFA by Kearney; however, the site was investigated under the Phase I RFI (I.T. Corp., 1992) and Phase II RFI (Sverdrup, 1994). Based on results of the RFI sampling, no release of constituents hazardous to human health or the environment was released.

Unidentifiable drums and debris were sampled and analyzed prior to removal. Upon characterization of debris in December 1994, construction materials were recovered for recycling, wood material was disposed in the WSMR landfill, metal was taken to the WSMR salvage yard, and paint and solvents were shipped to an authorized incinerator. Following debris removal from the trench, six soil samples were collected from the trench floor for hazard characterization. All samples collected at the site were characterized as non-hazardous after analysis (Dow, 1996).

A Class III Permit Modification petition was submitted on January 24, 2000 to NMED. A Public Meeting was held on February 23, 2000 to solicit public comment concerning the Class III Permit Modification as part of the Final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including background metals study, confirmation sampling, and ecological risk assessment. This investigation commenced in FY03 and is slated to be completed in FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004; however, NMED submitted a Notice of Deficiency (dated 15 November 2004) including a total of 10 comments requiring a WSMR response. WSMR is currently developing their response.

CLEANUP STRATEGY

Complete investigation phase in FY06. The investigation includes a background soil investigation, confirmation sampling and an ecological risk assessment (funded in FY03-04). A petition for NFA (i.e., Response Complete) will occur following NMED approval of field activities.

A decision document will also be completed in FY06. Costs for closeout activities for WSMR-30, 31, 32, 33, 36, 57, 60, 73, 74, 79, 84 will all be addressed under WSMR-30.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
Metals, Organics, Solvents

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198907	199210
RFI.....	199205	200709
IRA	199505	199602

RC: 200709

WSMR-85

HELSTF GROUNDWATER STUDY

SITE DESCRIPTION

WSMR-85 consists of contaminated groundwater underlying the HELSTF area. Previous investigations at the site revealed contaminants including chlorinated volatile organic compounds, hexavalent chromium, and petroleum hydrocarbons above levels established by the NMED. Multiple contaminant sources exist from IRP and non-IRP sites. The efforts at HELSTF have primarily focused on individual sources and locations of contamination (e.g. WSMR-52 Former HELSTF Landfill, WSMR-54 HELSTF Storage Chromate Spill Site, and WSMR-55 HELSTF Systemic Diesel Spill) rather than the relationships between them all.

A HELSTF conceptual site model (CSM) was developed to review and compile the available subsurface environmental information in the HELSTF area. The CSM was developed to illustrate the relationships between all of the sources of contamination, wells, and groundwater at HELSTF.

Per the state's request, a Phase III RFI commenced in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work will include IRP sites WSMR-52, WSMR-53, WSMR-54, WSMR-55, WSMR-78 and WSMR-83.

CLEANUP STRATEGY

Complete and receive approval of the Phase III RFI work plan (BAE, 2004d) during FY05.

Commence Phase III RFI fieldwork during FY05, complete report during FY06 and obtain NMED approval during FY07.

Conduct CMS in FY08-09.

Implement groundwater monitoring and appropriate corrective measures in FY10.

Complete a decision document to cover WSMR-52, 53, 54, 55, 78 and 83 in FY10.

STATUS

RRSE: Medium

CONTAMINANTS OF CONCERN:
TPH, Solvents, Chromium

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
RFA	199401	199410
CS	199502	199512
RFI.....	199601	200909
LTM.....	200910	203009

RC: 200909

WHITE SANDS MISSILE RANGE

INSTALLATION RESTORATION PROGRAM

RESPONSE COMPLETE SITE DESCRIPTIONS

WSMR-11 LIQUID PROPELLANT EVAPORATION/NEUTRALIZATION PITS (10) SWMUs 92-100

SITE DESCRIPTION

WSMR-11 consists of ten earthen pits located 2 mi east of the Main Post at the Liquid Propellant Storage Area (LPSA). The LPSA became active in 1953. The pits were constructed in 1958 and provided secondary containment for specific product storage areas until they were taken out of service in approximately 1992. The unlined pits were approximately 20 ft in diameter and 10 ft deep. The pits served as secondary containment for adjacent storage areas that held Inhibited Red Fuming Nitric Acid (IRFNA), liquid propellants, monomethyl hydrazine (MMH), unsymmetrical dimethyl hydrazine (UDMH), and POLs.

In 1956, a spill of 905 gallons of IRFNA was reported. In 1975, five gallons of UDMH was reported spilled. In 1987, 12 to 15 gallons of IRFNA were spilled while filling drums from a storage tank. The spill was flushed to the containment pit, diluted, and neutralized. The RFA (A.T. Kearney, 1988) suggested a RFI be performed on the site.

Phase II RFI findings (Sverdrup, 1994) indicated high levels of TPH and low levels of solvents. A CMS was recommended for this site.

From June through September 1995, a remedial action was performed at SWMUs 92-100. The existing storage shed drains were plugged as well as the drain lines leading from the storage shed to the pits. The drain lines were sampled, characterized and properly disposed in the WSMR landfill and scrap yard.

Soil excavated during removal of the drain lines was sampled for TPH, VOCs, and SVOCs and characterized as non-hazardous. Following characterization, the excavated soil was used to backfill the trenches. The close out report detailing the remedial action at the site concluded that WSMR should apply for closure of the site (Dow, August 1996).

Following remedial action, EPA Region VI approved a Class III Permit Modification dated December 31, 1995 for SWMUs 92A, 93, and 95-100. These SWMUs were removed from the HSWA Corrective Action Module of the RCRA Part B Permit. SWMUs 92B and 94 remain on the HSWA Corrective Action Module. IRP actions have been completed at WSMR-11.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
IRFNA, Liquid Propellants, MMH,
UDMH, POL

MEDIA OF CONCERN: Soil

<u>PHASES</u>	<u>Start</u>	<u>End</u>
RFA	198805	198808
CS	198805	199408
RFI.....	199408	199410
DES	199408	199410
CMI(C)	199507	199507

RC: 199608

WSMR-24 TULA PEAK BURIAL SITE INCINERATOR SWMU 61

SITE DESCRIPTION

WSMR-24 is an inactive ordnance incinerator located approximately 2 miles north of Tula Peak. Cluster bomb units (CBU) and other small ordnance were placed in the incinerator as part of an ordnance disposal procedure. In 1995, a fence was constructed around the site to restrict access. The fence was constructed to achieve the desired objectives of protecting humans and wildlife from the potential hazards associated with the site. Specifications for the fence are included in the close-out report (Dow, August 1996).

The dates of operation of this unit are unknown. However, at the time the RFA (A.T. Kearney, 1988) was performed the unit was inactive and already heavily rusted.

The EPA Statement of Basis states, "The unit is inactive and contains partially melted cluster bomb units and military ordnance. Soil sampling results detected no waste source or release. No Further Action under the corrective action process is required. WSMR has volunteered to close the site under NMEDs Solid Waste Program."

Groundwater monitoring was conducted semi-annually between 1998 (Mevatec, March 1998; October 1998) and 2001 (Mevatec, June 2001; August 2001). Explosive compounds have not been detected in the groundwater at this site.

At the conclusion of the Phase I RFI, EPA Region VI approved a Class III Permit Modification dated 31 December 1995. This site was removed from the HSWA Corrective Action Module of the RCRA Part B Permit. No further remedial action is required.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
Munitions, Explosives

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	198805.....	198808
SI.....	198808.....	198808
RI.....	199406.....	199408

RC: 199608

WSMR-27

FORMER ACID NEUT UNIT @ HWSF LOADING DOCK

SWMU 89

SITE DESCRIPTION

WSMR-27 was formerly an open-topped, concrete evaporation tank located adjacent to the Hazardous Waste Storage Facility (HWSF), which is located 8 mi east of the Main Post area. Facility personnel estimated the date of construction between 1973 and 1978. Prior to 1981, the tank was used to evaporate liquid chemical wastes generated at the installation's photographic laboratories. When not being used for evaporation, the unit was occasionally used as a storage pad for damaged transformers containing PCBs.

In 1981, PCB transformers were being stored in the tank when a batch of corrosive photographic waste was added to the unit. As a result, PCBs leaked from the transformers and mixed with the corrosive photographic waste. Soil sampling around the unit indicated PCB contamination. The sludge and soils were removed, drummed, and buried in the Hazardous Waste Landfill. The remediation and cleanup was performed in 1981 by WSMR with EPA Region VI and NMED oversight. The unit was converted to a loading dock in 1981 by installing a reinforced concrete cap/seal over the structure (A.T. Kearney, 1988).

The Phase II RFI (Sverdrup, 1994) recommended that no further investigation is necessary. Future action includes submission, by WSMR, of a Petition for No Further Action to the NMED-Hazardous Waste Bureau. A Class III Permit Modification to the WSMR RCRA Permit will follow.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
PCBs, Solvents

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI.....	199205	199402
CMI(C)	199205	199402

RC: 199707

WSMR-29

STP DRYING BEDS (MAIN POST)

SWMU 79

SITE DESCRIPTION

WSMR-29 was located in the vicinity of the STP and consisted of 11 sludge drying beds. The sludge beds were made of 2 ft concrete walls with sand bottoms. Each bed was approximately 20 ft x 50 ft. The southern end of each bed was designed with an elevated concrete drive to allow access for the loading of sludge onto trucks for transport and disposal. The sludge was deposited into the beds approximately once a month and the dried sludge cake was removed once a year for disposal. Facility representatives estimate that 3 to 4 cubic yards of sludge cake were removed yearly from each cell.

In 1978, floodwater destroyed part of the sludge beds. The debris was removed and stored in a nearby waste pile (SWMU 80). The sludge beds were then reconstructed, using the same specifications as the old sludge beds.

At the conclusion of the Phase I RFI, EPA Region VI approved a Class III Permit Modification, dated 31 December 1995, for No Further Action at this site.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	198805	198808
SI	198805	198808
RI	199205	199208
RA(C)	199507	199508

RC: 199608

WSMR-34

TTF HDPE-LINED LAGOON (REMOVED)

SWMU 104

SITE DESCRIPTION

WSMR-34 is the site of a removed HDPE lined evaporation pond at the TTF, located approximately 2.5 mi east of the Main Post area. The TTF was designed to simulate extreme weather conditions by inducing a wide range of temperature and climatic variations. After completion of construction in early 1984, the facility consisted of a main test building, several USTs with ancillary piping, and a surface evaporation pond. The original refrigerant used to cool the test chamber was methylene chloride (MeCl), which was recycled using the USTs. The surface evaporation pond was used to evaporate process wastewater generated as a by-product of freezing rain tests performed in the test building. The evaporation pond, excavated into the natural sandy soil, was approximately 70 ft wide and 150 ft long (surface area approximately 10,000 ft²), and lined with a high-density polyethylene liner.

The TTF was originally designed to collect process wastewater in floor drains within the facility and discharge to the evaporation pond via underground pipes. In July 1983, prior to final construction completion, it was discovered that MeCl leaked directly to the ground surface east of the TTF building. The leakage occurred due to faulty seals in the coolant system. From January 1984 to January 1985, wastewater with MeCl was discharged to the lagoon. In January 1985, it was discovered that the HDPE liner had eroded and leaked the pond's contents to the underlying soil.

It was originally estimated that 6,400 pounds (lb) of MeCl were released into the underlying soil (GCL, 1987). A study performed by New Mexico State University in 1991 estimated the quantity of MeCl in the soil to be approximately 924 lbs (NMSU, 1991). However, additional leaks due to faulty seals in the USTs and ancillary piping released an unknown amount into the subsurface.

In 1990, WSMR, with approval from NMED, installed an impermeable cap covering soil contamination beneath the evaporation pond and surrounding area. In 1991, TTF personnel replaced MeCl with Syltherm, an environmentally "safer" heat exchange liquid, as the primary coolant at the facility. Additionally, the coolant system was re-engineered to prevent releases.

In April 1995, WSMR installed a soil vapor extraction system (IRP site WSMR-41) to remove MeCl from the subsurface. Since then, all work at the site has been conducted under IRP site number WSMR-41 including SVE operations, semi-annual groundwater monitoring and monthly cap inspections. The reader is referred to the Site Description for WSMR-41 for more information.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
MeCL, Solvents

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI.....	198805	198809
IRA	198807	198809
CMI(C)	199205	199309

RC: 199707

WSMR-39 FORMER MAIN POST LANDFILL 1A SWMU 63

SITE DESCRIPTION

WSMR-39 (SWMU 63) is the suspected former landfill No. 1, supposedly located in the southeast area of the Main Post. Previous studies indicated that the landfill was located in the immediate area of Building 1678. Details were not available on the size, shape, types of waste managed, where the waste was generated, or the volumes of the waste disposed. No historical information was available on the design, construction, and operating procedures used at this unit.

In 1988, SWMU 63 was investigated under the WSMR RFA (A.T. Kearney, 1988). This report concluded that the potential for releases to soil and groundwater was unknown based on the age of the landfill and the lack of information regarding the types of waste received and the past management practices. A 1992 Phase I RFI (IT Corp., 1992) also found no evidence of contamination.

In 1994, four monitoring wells were installed and sampled around the suspected landfill as part of the Phase II RFI (Sverdrup, 1994). Analyses indicated no constituents exceeding their respective action levels. However, this report speculated that the actual site of SWMU 63 may have been southeast of Building 1678 and recommended that further studies be performed to identify its actual location.

A review of aerial photographs from 1956 and field inspections indicated that the site was most likely located approximately 330 ft south of Building 1678. To avoid confusion with the previously misidentified site, the new alleged landfill location was referred to as Landfill 1A.

An additional RFI was conducted and consisted of an archeological study, geophysical survey, and soil borings. The archeological study and the geophysical survey were completed in May 1998 and July 1998 respectively. Boring activities were conducted in 1999 at sites identified as possible trench locations containing buried waste. Through visual classification of soil samples, no buried waste was detected. From this study, it was concluded that no landfill exists and that no further action is required at this site (Mevatec, April 2000).

In a August 2, 2004 letter (Kieling, 2004), the NMED agreed with WSMR's assertion that Landfill 1A does not exist and recommended that a No Further Action petition be submitted. Therefore, future action includes submission, by WSMR, of a Petition for No Further Action to the NMED-Hazardous Waste Bureau. A Class III Permit Modification to the WSMR RCRA Permit will follow.

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
None

MEDIA OF CONCERN: None

PHASES	Start	End
PA	198805	198808
RI	199602	200004

RC: 200004

WSMR-40 (PAGE 1 OF 2)
FORMER MAIN POST LANDFILL 2A
SWMU 64

SITE DESCRIPTION

WSMR-40 is the suspected former Landfill No. 2 (SWMU 64) supposedly located in the southeast area of the Main Post. Previous studies indicated that the landfill was located in the immediate area of Building 1774. Details were not available on the size, shape, types of waste managed, where the waste was generated, or the volumes of the waste disposed. No historical information was available on the design, construction, and operating procedures used at this unit. This facility reportedly operated from 1948 to 1965.

In 1988, SWMU 64 was investigated as part of the WSMR RFA (A.T. Kearney). This report concluded that the potential for releases to soil and groundwater was unknown based on the age of the landfill and the lack of information regarding the types of waste received and the past management practices. The Phase I RFI (IT Corp., 1992) also found no evidence of a contamination source or release at SWMU 64.

Five monitoring wells were installed and sampled around the suspected landfill as part of the Phase II RFI (Sverdrup, 1994). Analyses indicated no constituents exceeded their respective action levels. However, this report speculated that the actual site of SWMU 64 may have been southeast of Building 1747 and recommended that further studies be performed to identify its actual location.

A review of aerial photographs from 1956 and field inspections indicated that the site was possibly located approximately 660 ft to the south of Building 1774. To avoid confusion with the previously misidentified site, the new alleged landfill location was referred to as Landfill No. 2A.

An additional RFI was conducted and consisted of an archeological study, geophysical survey, and soil borings. The archeological study and geophysical survey were completed in May 1998 and July 1998 respectively. However, a smaller potential waste disposal area (8.82 acres) was found northeast of the main landfill area, outside of the survey area. The archeological study was extended to cover the newly identified area. This was completed in December 1998.

A geophysical study was conducted in 1999 to further identify potential trenches and buried waste. Boring activities were then conducted in 1999 on the entire site in conjunction with Landfill 1A (WSMR-39). No evidence of refuse was discovered during the soil borings. From this study it was determined that no landfill exists and that no further action is required at this site (Mevatec, June 2000).

STATUS

RRSE: Low

CONTAMINANTS OF CONCERN:
None

MEDIA OF CONCERN: None

PHASES	Start	End
RFA	198805	198808
RFI.....	199405	200008

RC: 200008

WSMR-40 (PAGE 2 OF 2)

FORMER MAIN POST LANDFILL 2A

SWMU 64

SITE DESCRIPTION

The NMED concurred in a July 10, 2003 NMED letter (Frischkorn, 2004) that the Former Main Post Landfill 2A does not exist, and requires no further investigations. However, the state did request additional investigation of monitoring well T-21 which was sampled during the Phase II RFI. During this sampling event, chromium and lead were detected above NMWQCC standards. Confirmation sampling took place in August 2004. A letter report to the NMED (BAE, 2004e) stated that no lead or chromium were detected and recommended no further action at well T-21.

In a December 1, 2004 letter, the NMED concurred with the August letter report and concluded that WSMR had completed the required investigation pertaining to Landfill 2A. Therefore, future action includes submission, by WSMR, of a Petition for No Further Action to the NMED-Hazardous Waste Bureau. A Class III Permit Modification to the WSMR RCRA Permit will follow.

WSMR-50 HELSTF ETHYLENE GLYCOL TANKS SWMU 35 AND 36

SITE DESCRIPTION

WSMR-50 consisted of two Ethylene Glycol Tanks located at HELSTF. These steel tanks were located immediately west of the Former Chemical Waste Evaporation Tanks at HELSTF and were approximately 5 ft long x 4 ft tall x 4 ft wide. The tanks were used as emergency storage containers for ethylene glycol in the event the compressor system at HELSTF failed. An emergency release occurred once, in 1988. The ethylene glycol was disposed through the Holloman Air Force Base Defense Reutilization Marketing Organization (DRMO). There were no other reported releases of ethylene glycol to the tanks. The RFA (A.T. Kearney, 1988) suggested NFA.

The tanks were removed in 1989.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
Ethylene Glycol

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198809
RFI.....	198901	198902
CMI(C)	198902	198905

RC: 199707

WSMR-56 PAINT SHOP SUMP SWMU 137

SITE DESCRIPTION

WSMR-56 is a paint shop sump located at the north end of Building 1742 on Main Post. This site has been active since 1968. Wastewater generated from the paint spray booth located inside Building 1742 is discharged to the 3 ft x 3 ft concrete sump. The sump receives wastewater generated by the paint spray booth. Separation of sludge, paint, and other debris is accomplished by gravity. The effluent is piped to the STP (SWMUs 66-78 and 85). There is no history of a release from this unit.

At the conclusion of the Phase I RFI, EPA Region VI approved a Class III Permit Modification dated 31 December 1995. This site was removed from the HSWA Corrective Action Module of the RCRA Part B Permit.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
Metals, Solvents

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	198805	198808
RFI.....	199206	199412

RC: 199707

WSMR-58 FORMER VANDAL BURIAL SITE SWMU 153

SITE DESCRIPTION

WSMR-58, the Vandal Burial Site, was located at the Hazardous Test Area (HTA) approximately 7 mi north of the Main Post. It is believed the unit was activated in the mid-1950s for the burial of missile and rocket parts. The date of the termination of operations for this unit is unknown.

In February 1991, Geonics EM-31, PPM-500, and Geonics EM-34 geophysical instruments were used in order to delineate the burial site.

During December 1994, rocket and missile components including overlying soil were excavated and hauled to a visqueen-lined stockpile area. Stockpiled soil was excavated and determined to be non-hazardous. From February to March 1995 the stockpiled soil was taken to the WSMR landfill to be used as cover. Suspected ordnance and missile components were turned over to the WSMR Explosive Ordnance Disposal (EOD) unit for characterization. Metal components cleared by EOD and radiation control were turned into the scrap metal yard on WSMR. Six confirmation soil samples were taken on 23 February 1995 and determined to be non-hazardous after testing. The closure report concluded that remedial activities at SWMU 153 have been completed and that WSMR should apply for closure of the site (Dow, 1996).

At the conclusion of the Phase I RFI (IT Corp., 1992), EPA Region VI approved a Class III Permit Modification dated 31 December 1995. This site was removed from the HSWA Corrective Action Module of the RCRA Part B Permit.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:

Explosives, Munitions

MEDIA OF CONCERN:

Soil

PHASES	Start	End
PA	198805	198808
SI	198805	198808
RI	199205	199307
RA(C)	199507	199507

RC: 199609

WSMR-59 FORMER SEWAGE TREATMENT PLANT (IMHOFF TANK) SWMU 62

SITE DESCRIPTION

WSMR-59 consisted of a former sanitary wastewater treatment plant (IMHOFF Tank) located near the present horse stables (on the eastern portion of Main Post). The start up date is unknown, but may have been concurrent with the initial post construction in the early 1940's. Operations were terminated in 1958 and the area was re-graded.

A Phase I RFI (IT Corp., 1992) was performed to determine whether the Imhoff tank was still in place and whether a release had occurred. In March 1991, total magnetic field, ground conductivity, and in-phase component geophysical survey methods were used to tentatively locate the tank. All three methods exhibited highly anomalous values in the eastern portion of the survey area. This anomaly is roughly circular with a radius of approximately 50 ft. Due to the magnitude of anomalous readings on all three data sets, this area is suspected to be the location of the Imhoff Tank. Soil samples were collected in the vicinity of the anomaly and the analytical results did not indicate any release from this site.

The U.S. EPA Region VI approved a Class III Permit Modification dated 31 December 1995 to remove the site from the HSWA corrective action module of the RCRA Part B Permit.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	198805	198808
SI	198805	198808
RI	199206	199412

RC: 199707

WSMR-67

STALLION ASPHALT TANKS

SWMUS 121-123

SITE DESCRIPTION

WSMR-67 consisted of three inactive steel tanks located southwest of the Stallion Gate security checkpoint. The asphalt tanks were not buried, but were placed on the side of a terraced hill with the soil on the north side of the tanks extending approximately halfway up the tank sides. No piping or vent lines were associated with the tanks.

Approximately 5,550 gallons of product (asphalt primer solution) was removed from tank 3 on 26 April 1993 and transported for recycling to Koch Materials Company located in Albuquerque, New Mexico. Approximately one foot of solidified asphalt-like material that was floating on the primer could not be pumped and was left in the tank, which was disposed in the Stallion Range Center Landfill (ASI, 1993).

Approximately 8,470 gallons of product (asphalt emulsion) in tanks 1 and 2 was removed on 28 June 1993 and transported for recycling to Koch Materials Company. The tanks were transported for recycling to Tom Black's Enterprises in Dona Ana, New Mexico (ASI, 1993).

EPA Region VI approved a Class III Permit Modification dated 31 December 1995 indicating No Further Action at SWMUs 121-123. This site was removed from the HSWA Corrective Action Module of the RCRA Part B Permit.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
TPH, Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	198805	198808
RFI.....	199305	199307
CMI(C)	199307	199307

RC: 199308

WSMR-72 ABAND DISPOSAL TRENCH AT NEW COMMISSARY SWMU 163

SITE DESCRIPTION

WSMR-72 was an abandoned landfill discovered during the construction of the new Main Post Commissary in 1994. The dates of operation are estimated to have been between 1946 and 1952.

The debris from the landfill was excavated and placed in 82 roll-off bins and sampled. Seven of the bins were determined to contain high levels of lead and were sent to a hazardous waste landfill. The debris from the other 75 bins was disposed in the Main Post Landfill. In addition, soil samples were collected from the sidewall and base of the excavated trench and split with NMED personnel. Analytical results indicated no constituents present above Subpart S action limits (ASI, 1994).

WSMR will determine if a Class III Permit Modification to remove this site from the HSWA Corrective Action Module of the RCRA Part B Permit is necessary, if so, a modification will be made.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil

PHASES	Start	End
RFA	199409	199410
CS	199410	199410
RFI	199410	199410
CMI(C)	199410	199410

RC: 199410

WSMR-75

RHODES CANYON SUBGRADE ASPHALT TANKS(3)

SWMUS 116-118

SITE DESCRIPTION

WSMR-75 consisted of three (3) steel tanks located southeast of the Rhodes Canyon Landfill (WSMR-14) on Range Road 6. The dates of operation were not available from facility personnel or from file material. However, the tanks appeared to be approximately 15 to 20 years old indicating the tanks were installed during the 1975-1980 timeframe. The tanks were partially below grade with the center tank slightly exposed above the surface. The visible portion of the other tanks appeared to be in good condition. The estimated capacity of the tanks was approximately 2,500 gal each. The tanks and surrounding soil were removed in 1994 (ASI, 1994).

WSMR will submit a Class III Permit Modification to remove this site from the HSWA Corrective Action Module of the RCRA Part B Permit.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
POL

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	198805	198808
CS	199005	199209
RFI.....	199205	199210
CMI(C)	199305	199306

RC: 199707

WSMR-77

MCAFFEE & VET CLINIC INCINERATORS

SWMU 125

SITE DESCRIPTION

WSMR-77 was a Stamco gas-fired incinerator that was formerly used to destroy clinical wastes generated at the Veterinary Clinic. The exact start-up date is not known, however, the unit was deactivated in 1986. The Vet Clinic was located in Building T-1834 on the WSMR Main Post. The overall size of the unit was approximately 3 ft x 5 ft x 2 ft mounted on a 6-in concrete slab. Waste is now collected by a contractor and disposed off-range.

The RFA (A.T. Kearney, 1988) found no indication that hazardous wastes were managed and recommended no further action at the site. The incinerator was removed after deactivation in 1986.

WSMR will submit a Class III Permit Modification to remove this site from the HSWA Corrective Action Module of the RCRA Part B Permit.

STATUS

RRSE: NE

CONTAMINANTS OF CONCERN:
None

MEDIA OF CONCERN: None

PHASES	Start	End
PA.....	198805	198808
SI	198805	198808
RI.....	199102.....	199108
RA(C)	199102.....	199108

RC: 199707

RC SITES REMOVED FROM IRP CALENDAR YEAR 2000

AEDB-R	SWMU	Site Name	Reason for Removal from IAP
WSMR-01	N/A	Yonder Impact Area	Erroneous DSERTS Entry
WSMR-02	50-54, 155	Red Rio Munition Disposal Area (Pits 1-5)	Active RCRA Subpart X Unit with RCRA Closure
WSMR-03	41-46	Oscura Munitions Disposal Area	RCRA Subpart X unit with RCRA Closure
WSMR-04	AOC	Oscura Range Impact Area	Active Impact Area
WSMR-08	N/A	Pistol/Rifle Range	Active Firing Range
WSMR-12	AOC	OB/OD Disposal Pits HTA	Permitted under RCRA Subpart X
WSMR-13	AOC	Trinity Site	National Historic Landmark Monitored by White Sands Radiation Protection
WSMR-15	N/A	Former Hazardous Waste Landfill	Landfill underwent RCRA Closure with EPA
WSMR-17	66-78	Sewage Treatment Plant Main Post	Active Sewage Treatment Plant
WSMR-18	AOC	Flower Area Burial Site	Erroneous DSERTS Entry
WSMR-19	AOC	Burial Site North of Army Blockhouse	Erroneous DSERTS Entry
WSMR-20	AOC	Bonblet Burial Site	Inactive UXO Site Under RCRA Subpart X
WSMR-23	57-60	Tula Peak Burial Pits	Inactive UXO Site Under RCRA Subpart X
WSMR-35	107	TTF 25,000 gal Evap Tank	RCRA Closure
WSMR-37	90	HWSF Evaporation Tank	RCRA Closure
WSMR-42	85	STP Discharge Site at Playa Lake	Active Site with New Mexico Ground Water Quality Bureau (NMGWQB) Discharge Permit
WSMR-43	31-32	Former Chemical Waste Evaporation Tanks at HELSTF	Underwent RCRA Closure in 1991
WSMR-44	27-30	HELSTF STP Lagoons (Ponds 1-4)	Active Units with NMGWQB Discharge Permit
WSMR-45	146	HELSTF STP Dry Pond	Active Discharge Pond
WSMR-46	149, 151-152	HELSTF Septic Systems	Active Units Regulated by the New Mexico Environment Department's Construction Industries Division – Class III Modification by EPA in 1995
WSMR-47	144	HELSTF LSTC Wastewater Discharge	Active Unit Regulated under NMGWQB
WSMR-48	142	HELSTF Cleaning Facility Sump	RCRA Closure
WSMR-49	33-34	HELSTF Holding Tanks	Active Neutralization Units Exempt from RCRA – Class III Permit Modification by EPA in 1995
WSMR-66	162	Stallion Range Center Former Fire Fighting Training Area	Erroneous DSERTS Entry/Not Included in the Hazardous and Solid Waste Amendment Permit
WSMR-68	AOC	Sewage Lagoons at Stallion Range Ctr	Active Site Regulated by the NMGWQB
WSMR-69	AOC	Septic Tank/Drain Field at Rhodes Canyon	Active Unit Regulated by the NM Environment Department's Construction Industries Div

RC SITES REMOVED FROM IRP CALENDAR YEAR 2000

AEDB-R	SWMU	Site Name	Reason for Removal from IAP
WSMR-70	119-120	Former Landfill at Stallion Range Center	Active Site Regulated by the New Mexico Solid Waste Bureau
WSMR-76	132	Sewage Lagoon at Oro Grande Range Camp	Active Site Regulated by the New Mexico Ground Water Quality Bureau
WSMR-80	19-20	Steam Washpad, Drain, Oil/Water Separator at Building 1753	Active Site Ineligible for Inclusion in the IRP
WSMR-81	86	Main Post Sanitary Landfill	Active Site Regulated by the New Mexico Solid Waste Bureau
WSMR-82	87	Main Post Construction Landfill	Active Site Regulated by the New Mexico Solid Waste Bureau

PAST MILESTONES

IRP Phase	Completion Date
RFA (i.e., PA) INITIATION (also considered the CERCLA "Preliminary Assessment" Phase)	MAY 1988
RFA (i.e., PA) COMPLETION	AUG 1988
RCRA PART B PERMIT with HSWA Module	SEP 1989
WSMR-15, Former Hazardous Waste Landfill	SEP 1990
RFI PHASE I (INCLUDED 80 SWMUs)	DEC 1992
WSMR-43, Chem Waste Evap Tanks at HELSTF	MAR 1993
WSMR-43, Former Chem. Waste Evap Tank at HELSTF	MAR 1993
WSMR-75, Rhodes Canyon Subgrade Asphalt Tanks (3)	JUNE 1993
WSMR-67, Stallion Asphalt Tanks	JULY 1993
WSMR-27, Former Acid Neut. Unit @ HWSF Loading Dock	FEB 1994
WSMR-55, HELSTF Systemic Diesel Spill	AUG 1994
RFI PHASE II (INCLUDED 52 SWMUs)	SEP 1994
IRM: WSMR-41, TTF Methylene Chloride Spill Area/Vap Ex	OCT 1994
WSMR-35, TTF 25,000 Gallon Evap Tank	OCT 1994
WSMR-72, Abandoned Disposal Trench and New Commissary	OCT 1994
WSMR-41, TTF Methylene Chloride Spill Area/Vap Ex	MAY 1995
WSMR-23, Tula Peak Burial Pits	AUG 1995
WSMR-37, HWSF Evaporation Tank	DEC 1995
WSMR-30, STP Sludge Waste Pile (Main Post)	JUNE 1996
CMI: WSMR-11, Liquid Propellant Evap/Neut. Pits (10)	AUG 1996
WSMR-20, Bomblet Burial Site	AUG 1996
WSMR-29, STP Drying Beds (Main Post)	AUG 1996
WSMR-57, Former Golf Course Pesticide Storage Shed	SEPT 1996
WSMR-58, Former Vandal Burial Site	SEPT 1996
WSMR-84, Former LC-37 Paint Dump	SEPT 1996
WSMR-31, Main Post FFTA & Pit	JAN 1997
WSMR-32, Main Post Former FFTA Waste Pile	JAN 1997
WSMR-36, Former Waste/Oil Tank & Sump East Bldg 1794	JAN 1997
WSMR-78, HELSTF Decon Pad and Underground Tank	JAN 1997
WSMR-34, TTF HDPE-Lined Lagoon (Removed)	JUL 1997
WSMR-50, HELSTF Ethylene Glycol Tanks	JUL 1997
WSMR-53, HELSTF Test Cell 4 Lagoon	JUL 1997
WSMR-74, Former Waste Oil Tank/Sump @ Bldg 1778	JUL 1997
WSMR-77, McAfee and Veterinary Clinic Incinerator	JUL 1997

PAST MILESTONES

IRP Phase	Completion Date
CMI(C): WSMR-09, NUC Effects Reactor Facility (Bldg 21235)	MAY 2001
Phase III RFI, Main Post initiation (11 Sites):	
WSMR-30, STP Sludge Waste Pile (Main Post)	APR 2003
WSMR-31, Main Post Former FFTA & Pit	APR 2003
WSMR-32, Main Post Former FFTA Waste Pile	APR 2003
WSMR-33, Used Battery Accum Areas (Main Post)	APR 2003
WSMR-36, Former Waste/Oil Tank & Sump East Bldg 1794	APR 2003
WSMR-57, Former Golf Course Pesticide Storage Shed	APR 2003
WSMR-60, Wash Ramp & Drain/Sump East of Bldg 1778	APR 2003
WSMR-73, Waste Underground Injection Pipe	APR 2003
WSMR-74, Former Waste Oil Tank/Sump @ Bldg 1778	APR 2003
WSMR-79, Heavy Eqpt Washpad & Drain @ Bldg1736	APR 2003
WSMR-84, Former LC-37 Paint Dump	APR 2003
Phase III RFI, HELSTF Initiation:	
WSMR-52, Former HELSTF Landfill	AUG 2003
WSMR-53, HELSTF Test Cell 4 Lagoon	AUG 2003
WSMR-54, HELSTF Chromate Spill Site	AUG 2003
WSMR-55, HELSTF Systemic Diesel Spill	AUG 2003
WSMR-78, HELSTF Decon Pad & Underground Tank	AUG 2003
WSMR-83, Former MAR Waste Stabilization Pond	AUG 2003
WSMR-85, HELSTF Groundwater Study	AUG 2003
CMI(C) Completion: WSMR-09, NUC Effects Reactor Fac (Bldg 21235)	JUNE 2004
CMI(C) Completion: WSMR-14, Former Rhodes Canyon Landfills	AUG 2004
DES Completion: WSMR-05, Former Oscura Range Center Landfill	SEP 2005
CMI(C) Completion: WSMR-71, Former North Oscura Peak Landfill	SEP 2005

PROJECTED MILESTONES

WSMR-05, Former Oscura Range Center Landfill
CMI FY2006

WSMR-52, Former HELSTF Landfill
DES FY2010
CMI FY2010
LTM FY2011

WSMR-54, HELSTF Chromate Spill Site
DES FY2010
CMI(C) FY2011
CMI(O) FY2012

WSMR-55, HELSTF Systemic Diesel Site
DES FY2010
CMI(C) FY2011
CMI(O) FY2012

WSMR-61, Former Main Post Landfill #3, (Scrap Yard)
DES FY2009
CMI(C) FY2009
LTM FY2010

WSMR-62, Former STP Percolation Ditches (2)
CMI(O) FY2010

WSMR-85, HELSTF Groundwater Study.
LTM FY2010

Projected ROD/DD Approval Dates: FY2009

Estimated Completion Date of all RA(C) Activities: FY2011

Estimated Completion Date of IRP (including LTM phase): Indefinite

White Sands Missile Range IRP Schedule

(Based on CTC)

		CURRENT PHASE				FUTURE PHASE					
AEDB-R#	PHASE	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
WSMR-05	CMI										
WSMR-09	CMI										
WSMR-14	LTM										203509
WSMR-30	LTM										
WSMR-41	CMI(O)										
WSMR-52	RFI										
	DES										
	CMI										
	LTM										204009
WSMR-54	RFI										
	DES										
	CMI(C)										
	CMI(O)										202109
WSMR-55	IRA										
	DES										
	CMI(C)										
	CMI(O)										202112
WSMR-61	RFI										
	DES										
	CMI										
	LTM										203409
WSMR-62	RFI										
	CMI(O)										203009
WSMR-71	CMI										
WSMR-85	RFI										
	LTM										203009

PRIOR YEAR FUNDING

FY88	RFA	300K	
	Phase I RFI	100K	\$400K
FY89	None		
FY90	Phase I RFI	100K	\$100K
FY91	Phase I RFI	1,385K	\$1,385K
FY92	Phase I RFI	952K	
	HELSTF IRM	135K	\$1,087K
FY93	Phase II RFI	2,903K	
	HELSTF IRM	460K	
	TTF IRM	695K	\$4,058K
FY94	Phase II RFI	665K	
	HELSTF IRM	700K	
	TTF IRM	1,196K	
	LTM	1,000K	\$3,561K
FY95	Phase III RFI	1,210K	
	HELSTF IRM	380K	
	TTF IRM	562K	
	CMS	450K	
	DES	500K	
	REM	1,270K	\$4,372K
FY96	HELSTF IRM	522K	
	LTM	346K	
	TTF IRM	1,550K	
	CMI	72K	
	RAB	50K	\$2,540K

PRIOR YEAR FUNDING

FY97	RFI	2,237.882K	
	DES	102.379K	
	CMI	1,284.728K	
	LTM	287.200K	
	IRA	952.632K	
	RAB	52.179K	
	S&A	106.25K	\$5,023,250
FY98	RFI	100K	
	DES	250K	
	CMI	1,354.5K	
	LTM	414.2K	
	IRA	500K	
	RAB	50K	
			\$2,668,700
FY99 White Sands Missile Range did not require IRP funds for FY99			
FY00	RFI	375.23K	
	CMI(O)	234.48K	\$609,710
FY01	RFI	377.8K	
	CMI(O)	234.5K	
	RAB	16.5K	\$628,800
FY02	CMI(C)	105.0K	
	CMI(O)	186.3K	
	RFI I	599.7K	\$891,000
FY03	RFI	1,882.2K	
	CMI(O)	260.0K	
	CMI(C)	740.5K	\$2,882,700
FY04	RFI	646.0K	
	CMI(O)	36.5K	
	CMI(C)	313.8K	
	IRA	139.8K	\$1,136,100
TOTAL PRIOR YEAR IRP FUNDS			\$31,343,260

CURRENT YEAR (FY05) FUNDING

WSMR-05	DES	65.93K
WSMR-14	LTM	20.41K
WSMR-41	CMI(O)	197.19K
WSMR-52	RFI	55.78K
WSMR-54	RFI	96.70K
WSMR-55	IRA	184.22K
WSMR-61	RFI	43.22K
WSMR-71	CMI(C)	32.26K
WSMR-85	RFI	231.29K

TOTAL CURRENT FUNDING: **\$927,000**

FUTURE YEAR FUNDING

TOTAL FUTURE REQUIREMENTS: **\$38,559,000**

TOTAL IRP PROGRAM COSTS: **\$70,829,260**

RESTORATION ADVISORY BOARD (RAB)

A. Status of Community Involvement

WSMR is located on land contained within the borders of five New Mexico Counties: Dona Ana (population 135,000); Sierra (population 9,900); Socorro (population 14,800); Lincoln (population 12,200); and Otero (population 51,900). In 1998, a public relations program was initiated by WSMR for the surrounding communities and will continue through completion of the IRP. WSMR solicited for public interest in establishing a RAB. After efforts were completed, the Installation Commander determined that there was not enough public interest to establish a RAB. Community interest will be re-evaluated in FY05 per the DODs DERP Guidance.

B. Determining Interest In Establishing A RAB

1. Efforts Taken To Determine Interest

In early Spring of 1998, WSMR solicited for interest in establishing a RAB to enhance public involvement in the on-going environmental restoration process. Advertisements were placed in the local WSMR paper, the Missile Ranger, on February 13, 1998. Solicitations were also sent to those individuals and entities on the facility mailing list. Eighteen responses were received out of one hundred twenty-nine solicitations.

On 15 April 1998, a second mailing took place to those eighteen persons and entities that responded to the February mailing. A total of eight responses were received from the second mailing. Only four of these responses requested the establishment of an actual RAB, or volunteered to serve on the RAB, should one be established, as Board members.

Additional funds have been requested for FY05 to reassess RAB (a biennial requirement). Funding was requested in FY04 but not received to fund a similar effort.

2. Follow-up Procedures

WSMR provides the public with opportunities for environmental restoration involvement by providing the following:

- a) Periodic newsletters (approximately every 3-6 months) discussing current restoration activities and providing plans and soliciting input for activities planned during the future year,
- b) Invitations to tour environmental restoration sites; and,
- c) Open access to the restoration library located in Building 163 on the Main Post.

C. Interest in the Technical Assistance for Public Participation (TAPP) Program: N/A

White Sands Missile Range

New Mexico

MILITARY MUNITIONS RESPONSE PROGRAM

AEDB-R MMRP SITES/SITES RC: 6/0

AEDB-R MMRP SITE TYPES:

6 Firing Ranges

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil, Groundwater

COMPLETED REM/IRA/RA: None

TOTAL MMRP FUNDING:

Prior Year	\$ 25,000
Current	\$ 0
Future	\$53,046,000

DURATION OF MMRP:

Year of MMRP inception:	2002
Year of RA completion:	2017
Year of MMRP completion:	Indefinite

MMRP Contamination Assessment

The Military Munitions Response Program (MMRP) was established in 2001 to manage the environmental, health and safety issues presented by UXO, discarded military munitions, and munitions constituents. The MMRP is an element of the Defense Environmental Restoration Program (DERP), under which the Secretary of Defense carries out environmental restoration resulting from historical activities. The DERP, through the Installation Restoration Program (IRP), had historically focused on cleaning up sites contaminated with hazardous components, including explosives, but generally has not addressed either UXO or challenges presented by sites containing discarded military munitions and munitions constituents.

The Department of Defense (DoD) established the Military Munitions Response Program to reflect the statutory program goals established for the DERP, to enhance understanding of the nature of munitions response sites, and to manage response activities more effectively. Since the DERP is intended to address environmental problems remaining from past practices, the MMRP does not cover munitions responses for areas that operated after fiscal year 2002.

The Army has completed a comprehensive inventory of its non-operational training ranges and defense sites with UXO, discarded military munitions or munitions constituent contamination that will provide critical environmental data and help determine the eligibility of training sites for the MMRP. Information pertaining to WSMR is contained in the Final Closed, Transferring and Transferred (CTT) Inventory Report dated November 2002. In this report, six WSMR sites are identified and described; four sites within and two sites outside the current WSMR boundaries. The Final CTT Inventory Report serves as WSMR's MMRP Preliminary Assessment (PA) per a April 29, 2004 ACSIM memorandum.

As of FY05, the state regulatory agency, i.e., the New Mexico Environment Department, has had minimal involvement in the WSMR MMRP. Greater involvement is expected in future years. At this time, no progress beyond the initial PA (i.e., Final CTT Range Inventory) has been attained. Potential groundwater and soil contamination are suspected at each of the six WSMR MMRP sites. At this time, site maps have not been completed for the sites.

CLEANUP EXIT STRATEGY:

Of the six MMRP sites at WSMR, two are only expected to require institutional controls or are expected to be moved to the FUDS program, the other 4 are expected to need waste removal, (soil/debris). These potentially needed waste removals are not expected to occur until FY16 or later.

2004

Final CTT Inventory Report, Apr 2004

WHITE SANDS MISSILE RANGE

MILITARY MUNITIONS RESPONSE PROGRAM

SITE DESCRIPTIONS

WSMR-001-R-01

ATHENA BOOSTER DROP ZONE 1

SITE DESCRIPTION

This is a transferred range, owned primarily by federal agencies such as the National Park Service and the Bureau of Land Management (BLM), comprising 274,400 acres in southeastern Utah in the area of Canyonlands National Park and the Manti-La Sal mountains. Other landowners within this range include state and private owners. Test missile boosters from Athena launches were dropped into this area between approximately 1963 and 1971; munitions that may be present include propellants and secondary explosives. This land is now primarily recreational land within the BLM and National Park Service. Interviewees stated that most of the boosters dropped in this area would have been retrieved, but there have been no known investigations and/or responses in this area. **This site has been recommended for FUDS, FDE Task 1.**

STATUS

RAC Score: 2 – Serious Risk

CONTAMINANTS: UXO

MEDIA OF CONCERN: Soil,
Groundwater

PHASES	Start	End
PA	200205	200305
RA(C)	201610	201709

RC: 201709

CLEANUP STRATEGY

The SI, funded under WSMR-002-R-01, will be completed to determine if further action is necessary. Future funding requirements are captured; however, AEC is coordinating a transition of the future requirements and responsibilities to the FUDS MMRP program.

WSMR-002-R-01

ATHENA BOOSTER DROP ZONE 2

SITE DESCRIPTION

This is a transferred range, owned primarily by federal agencies such as the National Forest Service, comprising 743,981 acres in west-central New Mexico in the area of the Magdalena Mountains and Cibola National Forest north of Datil, New Mexico. Other landowners within this range include tribal, state, and private owners. This land is mostly undeveloped, although there are a few private residences and ranches in the area. Test missile boosters from Athena launches were dropped into this area between approximately 1963 and 1971; possible munitions in the area include propellants and secondary explosives. Interviewees stated that most of the boosters dropped in this area would have been retrieved, but there have been no known investigations and/or responses in this area. **This site has been recommended for FUDS, FDE Task 2.**

STATUS

RAC Score: 2 – Serious Risk

CONTAMINANTS: UXO

MEDIA OF CONCERN: Soil,
Groundwater

PHASES	Start	End
PA.....	200205	200305
SI.....	200510	200609
RA(C)	201610	201709

RC: 201709

CLEANUP STRATEGY

The SI will be completed to determine if further action is necessary. Future funding requirements are captured; however, AEC is coordinating a transition of the future requirements and responsibilities to the FUDS MMRP program.

WSMR-003-R-01

ALAMOGORDO BOMBING RANGE

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising 772 acres in an auxiliary cantonment area in the northern portion of the installation, 115 miles north of the main installation cantonment area. Bombs were dropped by practicing pilots at this range from approximately 1942 to 1945. There have been no known UXO responses in this area.

CLEANUP STRATEGY

- The SI will be included in the installation wide investigation funded under WSMR-005-R-01 and WSMR-006-R-01.
- Assume FS, installation of groundwater monitoring well, OE, site characterization and removal assessment.
- Remedial design for a removal action.
- OE institutional controls. OE removal action.
- Groundwater monitoring.

STATUS

RAC Score: 2 – Serious Risk

CONTAMINANTS: UXO

MEDIA OF CONCERN: Soil,
Groundwater

PHASES	Start	End
PA.....	200205	200305
RI.....	201410	201509
RD	201510	201609
RA(C)	201610	201709
LTM.....	201710	204709

RC: 201709

WSMR-004-R-01 SEWAGE LAGOON

SITE DESCRIPTION

This is a closed range, still owned by the US. Army, comprising 166 acres in the extreme southern portion of the installation where installation sewage lagoons now exist. This area was used as an artillery impact area for 3-inch rockets from Fort Bliss' Camp Beasley between approximately 1942 and 1944. There have been no known UXO responses in this area.

CLEANUP STRATEGY

The SI will be completed to determine if further action is necessary funded under WSMR-005-R-01 and WSMR-006-R-01.

- Assume FS, installation of groundwater monitoring well, OE, site characterization and removal assessment.
- Remedial design for a removal action.
- OE institutional controls. OE removal action.
- OE monitoring.

STATUS

RAC Score: 2 – Serious Risk

CONTAMINANTS: UXO

MEDIA OF CONCERN: Soil,
Groundwater

PHASES	Start	End
PA	200205	200305
SI		
RI	201410	201509
RD	201510	201609
RA(C)	201610	201709
LTM.....	201710	204709

RC: 201709

WSMR-005-R-01

CONDRON FIELD

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising 480 acres in the extreme southern portion of the installation where an airfield now exists. This area was used as an artillery impact area for 3-inch rockets from Fort Bliss' Camp Beasley between approximately 1942 and 1944, and as a mobile combat range utilizing small arms in 1944. The area is now used as an airfield for drones that serve as missile targets. There have been no known UXO responses in this area.

CLEANUP STRATEGY

The SI will be completed to determine if further action is necessary.

- Assume FS, installation of groundwater monitoring well, OE, site characterization and removal assessment.
- Remedial design for a removal action.
- OE institutional controls. OE removal action.
- OE monitoring.

STATUS

RAC Score: 2 – Serious Risk

CONTAMINANTS: UXO

MEDIA OF CONCERN: Soil,
Groundwater

PHASES	Start	End
PA	200205	200305
SI	200510	200609
RI	201410	201509
RD	201510	201609
RA(C)	201610	201709
LTM.....	201710	204709

RC: 201709

WSMR-006-R-01

MAIN CANTONMENT AREA

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising 1,528 acres in the southern portion of the installation where the main installation cantonment area now exists. The cantonment area consists primarily of office buildings, maintenance facilities.

CLEANUP STRATEGY

The SI will be completed to determine if further action is necessary.

- Assume FS, installation of groundwater monitoring well, OE, site characterization and removal assessment.
- Remedial design for a removal action.
- OE institutional controls. OE removal action.
- OE monitoring.

STATUS

RAC Score: 2 – Serious Risk

CONTAMINANTS: UXO

MEDIA OF CONCERN: Soil,
Groundwater

PHASES	Start	End
PA.....	200205	200305
SI	200510	200609
RI.....	201410	201509
RD	201510	201609
RA(C)	201610	201709
LTM.....	201710	204709

RC: 201709

PAST MILESTONES

MMRP Start Date 2002

PROJECTED MILESTONES

Complete Installation Wide SI 2006

Phase Completion Milestones: 2015+

ROD/DD Approval Dates: 201509

Construction Completion: 201709

Completion Date of all RA(C) Activities: 201709

Completion Date of IRP (including LTM phase): 204709

White Sands Missile Range MMRP Schedule

(Based on CTC)

CURRENT PHASE

FUTURE PHASE

AEDB-R#	PHASE	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
WSMR-001-R-01	RA(C)										
WSMR-002-R-01	SI										
	RA(C)										
WSMR-003-R-01	RIFS										
	RD										
	RA(C)										
	LTM										
WSMR-004-R-01	RIFS										
	RD										
	RA(C)										
	LTM										
WSMR-005-R-01	SI										
	RIFS										
	RD										
	RA(C)										
	LTM										
WSMR-006-R-01	SI										
	RIFS										
	RD										
	RA(C)										
	LTM										

Cost

PRIOR YEAR FUNDING

2004 \$25,000

CURRENT YEAR (FY05) FUNDING

None

FUTURE YEAR FUNDING

TOTAL FUTURE REQUIREMENTS: \$53,046,000

TOTAL MMRP PROGRAM COSTS: \$53,046,000